103

GENERAL SERVICES ADMINISTRATION ISSUES

(Smoking Policy in Federal Buildings) (Alternative Rules Program for the Federal Fleet) (Child Care in Federal Buildings)

103–4

Y 4.P 96/11:103-4

General Services Administration Iss...

HEARING

BEFORE THE

SUBCOMMITTEE ON

PUBLIC BUILDINGS AND GROUNDS

OF THE

COMMITTEE ON

PUBLIC WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

FEBRUARY 23, 1993

Printed for the use of the
Committee on Public Works and Transportation

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GENERAL SERVICES ADMINISTRATION ISSUES

(Smoking Policy in Federal Buildings)

(Alternative Fuels Program for the Federal Fleet)

(Child Care in Federal Buildings)

TUESDAY, FEBRUARY 23, 1993

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 9 a.m., in room 2253, Rayburn House Office Building, Hon. James A. Traficant, Jr. (chairman of the subcommittee) presiding.

Mr. TRAFICANT. The Subcommittee on Public Buildings and Grounds will come to order.

The subcommittee is pleased to convene this morning to receive testimony from three GSA officials and one expert witness on the following issues: smoking in Federal buildings, the GSA Child Care Program, and the GSA Alternative Fuels Program, which is managed by the Transportation Division of the Federal Supply Service.

As we all know, smoking and the effects of secondary smoke on non-smokers are national health issues. Questions of liability and responsibility now surround these issues. The Federal Government has an obligation to provide a healthy work place for its employees as well as the general public who use our buildings.

I believe many have noticed today, in the Washington Post, specifically, in the State of California Governor Wilson has issued an executive order banning smoking from all "public places." In addition to that, we now see the private sector concerned about the liability issue, and McDonald's is beginning a pilot program to ban smoking in their restaurants. The bottom line is, if Ronald McDonald can address the issue, certainly the Congress, who usually either follows or gets out of the way, can start to lead on some of these important issues. That will be first on the agenda.

However, I'd like to add that this is not to take testimony of the damages, but how we as a government treat it, and also for some specific information from an expert that we have asked to come down here with us.

With regard to child care, in many instances economic conditions have created the necessity for both parents in a family to work.

The need, availability, and access to quality child care are critical issues to working families. As part of its Quality Work Place Program, the General Services Administration has initiated a program to provide for child care in Federal buildings. Additionally, GSA established an Office of Child Care and Development Programs to develop a national GSA child care program. That will be our second item.

The third deals with alternative fuels. Energy consumption and energy conservation have been firmly established as topics of national concern and focus. GSA is responsible for management of the Federal vehicle fleet and employing the most economical means to manage this fleet. GSA, through the Federal Supply Service, has been in the forefront of developing an alternative fuels program.

Our witnesses at this morning's hearing include P. Gerald Thacker, the Acting Commissioner of the Public Buildings Service. This service of GSA is responsible for smoking policy as well as child care programs. Following Mr. Thacker, we will hear from Dr. John W. Hoyt. Dr. Hoyt is currently the Chairman of the Department of Critical Care Medicine at St. Frances Medical Center in Pittsburgh, Pennsylvania, and is the Clinical Professor of Anesthesiology and Critical Care Medicine at the University of Pittsburgh, which is my alma mater. Dr. Hoyt is a recognized expert in cardiopulmonary disease and the effects of smoking on these diseases.

The final two witnesses from GSA include Dr. Patricia Kinney, Acting Director of the Office of Child Care and Development Programs, and Allan Beres, Assistant Commissioner, Office of Transportation and Property Management, Federal Supply Service, which is responsible for developing an alternative fuels program for our Government.

The Chair will now recognize Congressman John Duncan from Tennessee, who is this subcommittee's ranking minority Member, for the purpose of an opening statement.

Mr. DUNCAN. Well, thank you, Mr. Chairman. I have no opening statement, but I do want to say that I commend you for holding these hearings on these various topics. You're showing once again that you want this to be a very active subcommittee, and I salute you for that.

There is a great concern about smoking as people continue to become even more health-conscious in this country. I do want to, if we're going to hold hearings on this, make sure that these hearings are open and fair and include testimony from a wide range of witnesses, and I know that's your desire also, because we need to make sure that the information that is provided is as accurate as possible. I grew up in a family where nobody smoked, and like many people today, I'm anti-smoking. But I think that you can also be anti-smoking while not being anti-smoker, because I do recognize that many, many good people in this country, including quite a few Members of Congress who are friends of ours, smoke. So we want to see if we can have a balance in what we come up with.

But I appreciate your concern, and I look forward to going on with the hearings in an expeditious manner.

Thank you very much.

Mr. TRAFICANT. Thank you, Mr. Duncan.

I'd like to add that today's hearing more or less discusses the Federal Government policy. We will be having a hearing on H.R. 881, the ban on smoking in Federal buildings, in about mid-March, and I think your comments are right on target, and we will make sure that you have an opportunity to participate and ensure that both sides are represented.

Next here, a new Member from Texas, Mrs. Eddie Bernice Johnson.

Ms. Johnson?

Ms. JOHNSON. Thank you, Mr. Chairman. I look forward to working with you and the other Members of this committee. This morning I'll simply say I'm looking forward to the witnesses.

Mr. TRAFICANT. Thank you.

Also with us—I call him "the mayor"—a bright young Member from California, Honorable Walter Tucker.

Mr. Tucker?

Mr. TUCKER. Thank you very much, Mr. Chairman, and I also look forward to working with you and the rest of the committee on this very important issue. I applaud you for taking leadership on this extremely important issue, and I'm sure the American people will appreciate our conscientiousness on this health issue.

Thank you.

Mr. TRAFICANT. Thank you, Mr. Tucker.

Also with us is the Chairman of Water Resources from the Public Works and Transportation Committee, not only a colleague of mine from a neighboring district, but a mentor, so if I fall apart as Chairman, we'll have to blame him. He's my advisor, I guess. Chairman Doug Applegate.

Chairman?

Mr. APPLEGATE. Thank you, Mr. Chairman. I don't think our Chairman needs any advice. I think he has been well-informed. He's come up through the ranks, and he knows what's going on. He's going to make an excellent Chairman of the committee, and I look forward to working with him.

Mr. TRAFICANT. Thank you, Chairman. I appreciate those comments.

Our first witness will be Mr. P. Gerald Thacker, the Acting Commissioner of the Public Buildings Service, General Services Administration. While Mr. Thacker is getting ready, I would like for everybody to summarize, if they could, rather than read from a lengthy document. We'd like to know what you really feel rather than what you're really reading. Your documents will be placed and incorporated officially into the record of the meeting.

TESTIMONY OF P. GERALD THACKER, ACTING COMMISSIONER, PUBLIC BUILDINGS SERVICE, GENERAL SERVICES ADMINISTRATION

Mr. THACKER. Good morning, Mr. Chairman and Members of the subcommittee. I do have a more extensive statement than my opening remarks to enter into the record, if I may, please.

As you stated, under the act that established the General Services Administration in 1949, the Administrator was given the responsibility of issuing the rules and regulations about what is allowed and what isn't allowed in public buildings in order to provide a safe and healthy and productive work place for the public that comes into the building, as well as the employees.

Nearly seven years ago, after consulting with representatives of the tenant agencies and with over six national labor unions, the Administrator of GSA issued regulations prohibiting smoking in Federal buildings, except in areas that were specially designated as smoking areas by the heads of the departments and agencies that were tenants in these buildings. The intent of those regulations was to allow smoking only where the smoker would be physically isolated from non-smoking fellow employees.

When, in the fall of 1992, the Environmental Protection Agency added secondhand smoke to the list of Class A carcinogens, along with such other carcinogens as benzene and asbestos, we met with representatives of these tenant agencies once again to discuss that particular problem. As you probably know, the air in modern office buildings is usually recirculated throughout the building. About 75 to 85 percent of the air is recirculated air at any one time, rather than being totally brought in fresh from the outside. Therefore, smoke from cigarettes or other tobacco items from elsewhere in a building eventually circulates throughout the rest of the building and exposes non-smokers to this cancer-causing agent, even when they don't come in direct contact with a smoker.

It was the consensus of the building tenant representatives that met with us that smoking should be banned in Federal buildings. There are, of course, several ways of doing that and several variations on how to do it. It can be done by regulations issued by GSA; it can be done by simply an order of the head of the department or agency affecting the employees of his or her department; it can be done by executive order; and, of course, it can be done by legislation.

At this time, I'm aware that all of these options are under consideration both within the Executive Branch and in the Congress, and we very much appreciate your having invited us to come today to discuss this matter with you. I'd be very happy to answer any specific questions that we can about the issue.

Mr. TRAFICANT. Thank you, Mr. Thacker.

Before we move into some questions, I'd like to recognize a new Member from South Carolina, Mr. Jim Clyburn.

Jim, would you like to make a brief statement?

Mr. CLYBURN. No, thank you, Mr. Chairman.

Mr. TRAFICANT. I'd also like to recognize the Vice Chair of our committee, Eleanor Holmes Norton from the District of Columbia.

Eleanor?

Ms. NORTON. Thank you, Mr. Chairman. I will ask that my statement be admitted into the record.

Mr. TRAFICANT. Without objection, your prepared statement will appear in the record.

[Ms. Norton's prepared statement follows:]

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OPENING STATEMENT OF CONGRESSWOMAN ELEANOR HOLMES NORTON BEFORE THE SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS HEARING ON SMOKING IN FEDERAL BUILDINGS, CHILD CARE CENTERS IN FEDERAL BUILDINGS AND ALTERNATE FUELS FOR FEDERAL VEHICLES, AND MARK-UP OF H.R.490, A BILL TO AUTHORIZE THE SALE AND CONVEYANCE OF LAND TO COLUMBIA HOSPITAL FOR WOMEN

February 23, 1993

Chairman Traficant, I am pleased to join you and my distinguished colleagues at this hearing to consider a number of your important initiatives, including smoking and child care policies in federal buildings and the use of alternative fuels in government vehicles, and to mark-up H.R.490, important legislation that would authorize the sale of federal land to the Columbia Hospital for Women.

I welcome our witnesses who will provide invaluable information as we consider policies that would not only effect federal employees working in federal buildings but also the lives of many more Americans. First, whether smoking should be allowed in federal buildings no longer represents only questions of health and individual rights, but becomes an issue of potential liability for the federal government if there is public exposure to harmful secondary smoke. Second, establishing child care centers in federal buildings has become an increasingly pressing issue as traditional care providers have been forced by economic circumstances into the workforce, with little suitable and affordable child care available. GSA has been a workplace pioneer in providing child care in federal buildings and assessing the availability, operation and cost-effectiveness of such child care arrangements. We look forward to hearing GSA's findings. Third, we are eager to hear GSA's status report on its program to pursue the use of alternative fuels for our federal fleet. Decreasing our reliance on gasoline is a wise policy, wise considering the effect on the environment, wise considering the exigencies of worldwide politics, and prescient considering the nexus to the President's own recent proposals.

Finally, I am especially pleased and gratified that H.R.490 is before us today and want to express my sincere appreciation to the Chairman for his diligence in working to bring this critically needed legislation forward at an early time in the session. The Columbia Hospital for Women is a preeminent institution, renowned and respected for addressing the

Recycled paper

special health problems of women and infants. This bill would authorize the sale and conveyance of federal land to the Columbia Hospital for Women and, by so doing, would enable the construction of a facility to house the first National Women's Health Resource Center in our country's history. It is rare and welcome that a bill to construct a major facility is presented to this committee that does not require a cent of taxpayer funds, as is the case today.

Recently, two independent appraisals of the land that were conducted produced very similar results. An eminent private firm appraised the property at 10.7 million dollars, consistent with a separate valuation of the property performed, for tax purposes, by the D.C. Division of Taxation. GSA's higher appraisal reflects the fact that its appraisal process does not take into account zoning requirements and practices for the area in which a property is located. There is a significant risk in buying property for a purpose for which the land is not zoned. If local zoning had been considered, GSA's ultimate appraisal would have been even closer to the professional independent appraisal and that of the D.C. government. Although the property is assessed at a lower value than the purchase price before the committee, the Hospital will adhere to the purchase price of 12.8 million dollars under section 1(a) of the bill and honor the agreement it made with GSA last year.

I particularly welcome Chairman Traficant's amendment to expand the national focus of H.R.490 to include, as a part of the Resource Center's outreach program, the formal exchange of information with university hospitals and health care centers throughout the country, thus providing these institutions the chance to participate in programs and activities of the Resource Center. There can be no doubt that Chairman Traficant's amendment will help to improve the health of millions more American women and children by allowing them to benefit more directly from the unique work of the Resource Center. The needs of countless women have been long neglected because of the absence of a national focus such as will be offered by the Hospital. The amendment offered by Chairman Traficant will expand the national objectives of this bill, to which Columbia Hospital for Women has always been dedicated.

Congressional delay for years has driven the cost of building the Resource Center higher and prevented the establishment of desperately needed facilities and programs to aid health care for women and children. Let us delay no longer. I thank Chairman Traficant and his staff for their skillful efforts in breaking through the remaining barriers to bring this legislation forward today.

Mr. TRAFICANT. If we could, then, what is, just in your own words, the current GSA policy regarding smoking in Federal buildings?

Mr. THACKER. The intent of the current policy is to isolate smokers from non-smokers within the building. So in the Federal property management regulations, which is where these rules are published, it permits the heads of departments and agencies to designate specific areas as smoking areas for the employees under their jurisdiction. Those smoking areas, again, are intended to be isolated from the general building population. Otherwise, smoking is prohibited within Federal buildings outside of those designated smoking areas.

There are some specific areas that the regulation prohibits smoking in regardless of the agency head's action. In auditoriums, for example.

Mr. TRAFICANT. Have you incurred any costs in effecting that type of a program since you have designated areas within the building structure itself?

Mr. THACKER. For the most part, GSA has incurred very little cost, if any. Some departments and agencies have taken further actions on their own to ventilate those designated smoking areas or to include some air filtering systems within a designated area for smokers.

Mr. TRAFICANT. If you have that information in writing, could you submit that if we leave the record open?

Mr. THACKER. We'll see if we do have something about what that has cost. I'm not sure there is an accumulation of that information, but we'll look and see, yes, sir.

Mr. TRAFICANT. I'd ask unanimous consent that that information, once sent, be incorporated into the minutes of the record. Any objection?

[No response.]

Mr. TRAFICANT. Hearing no objection, so ordered.

[The information received from Mr. Thacker follows:]

Question. How much did it cost to implement the current Federal Property Management Regulations (FPMR) governing smoking in GSA controlled space?

Answer. After contacting several of GSA's major client agencies concerning the cost of implementing the current smoking regulation, they reported that the costs incurred were very low. A few reported that they installed window fans to help alleviate smoke in designated smoking areas, but the cost was minimal. It is important to note that under the current regulations, designated smoking areas do not have to be separately ventilated and the FPMR states that, "An agency is not required by this regulation to make any expenditures for structural or non-structural changes to accommodate the preferences of non-smoking employees."

GSA did incur some cost in printing signs displayed in all of our facilities. However, the purchasing was done at the local Field Office level. We estimate that at a cost of $1.75 per sign, the total nationwide cost for the signs would have been approximately $52,000.

Mr. TRAFICANT. Is there a policy, Mr. Thacker, addressing environmental tobacco smoke?

Mr. THACKER. At this point, there is no separate policy to address secondhand smoke.

Mr. TRAFICANT. What is the sort of evolution of this non-smoking policy in Federal buildings? Maybe you can give us a little background on that. It seems that GSA was sort of on target.

Mr. THACKER. Again, about seven years ago, GSA and representatives of the tenant agencies housed in GSA-controlled space met to discuss this issue. GSA houses about a million Federal employees nationwide in some 7,800 buildings, both Government-owned and leased. It was decided that because of the evidence then on the record about the effects of smoke, both on smokers as well as non-smokers, that smoking in general should be banned from most areas of public buildings. Again, the exception was designated areas where the smokers could be physically isolated, in a sense, from the general building population, employees and the public.

That feeling was also discussed with six of the national employee unions and was finally published about seven years ago in a Federal property management regulation. It has the general effect that we just described—that is, heads of departments and agencies are allowed to designate specific areas within buildings for smoking and to prohibit smoking elsewhere within the public buildings.

Mr. TRAFICANT. Under what authority did GSA issue the non-smoking regulations?

Mr. THACKER. Under the basic statute that established GSA in 1949, the Administrator has the authority to publish rules and regulations describing what can be done and can't be done, what sort of behavior is allowed, in that sense, in public buildings. So it was published under that authority in the Federal property management regulations.

Mr. TRAFICANT. Did GSA reach some type of agreement on these non-smoking policies with labor unions?

Mr. THACKER. Yes.

Mr. TRAFICANT. What was the nature of that agreement?

Mr. THACKER. Again, I wasn't directly involved at that time, seven years ago, with those discussions, but six of the national labor unions were consulted about the policy. I think there was a consensus reached that, for both the protection of non-smokers as well as the convenience of smokers, the policy, as finally issued, would be satisfactory to the national labor unions.

I understand there are now some more specific agreements between individual labor unions and individual departments and agencies that contain more specific information at a particular installation, for example, about what is allowed and not allowed in terms of smoking, what the designated areas are, and so on. I'm not personally familiar with the exact nature of all those, though.

Mr. TRAFICANT. To the best of your knowledge, are there any programs which GSA has instituted or plans to institute that would attempt to encourage employees not to smoke?

Mr. THACKER. Yes. In fact, there are some 115 Public Health Service installations providing various levels of emergency health care as well as well-being services to Federal employees in public buildings. The Public Health Service has sponsored, all across the country, smoking cessation clinics, as well as making information available to employees about the effects of smoking on their health.

Mr. TRAFICANT. To what other areas under GSA jurisdiction would the GSA smoking policy be applied? For example, what do you do with your sizable fleet of vehicles?

Mr. THACKER. In the interagency fleet management system, GSA manages some 136,000 vehicles that are leased to the Federal community. A regulation is currently under consideration within GSA, and the responsible office is clearing it, I'm told. The regulation would restrict the use of tobacco products in those 136,000 vehicles. Again, there has been consultation by the responsible office with the Federal agency fleet managers about this proposed ban, and there has been overwhelming support, I understand, for that proposal. Many were already considering, apparently, adopting the same policy for their agency-owned fleets—that is, the ones that are not directly managed by GSA.

Of course, the concern is based primarily on potential health hazards to people who are traveling in the cars with smokers. Also, there are some economic considerations—that is, that the policy will reduce the cost associated with selling vehicles where occupants have used tobacco products. That includes the cleanup cost as well as some depreciation in the value of the vehicle when smokers have been using the cars.

Mr. TRAFICANT. Mr. Thacker, I appreciate your direct, forthright testimony here.

Mr. Duncan, I know you're in a tough situation on this in Tennessee, and I yield to the gentleman.

Mr. DUNCAN. Mr. Thacker, what has been the result of the GSA smoking policy? Have there been any studies or surveys which have shown that productivity has gone up or absenteeism has gone down? Have there been any surveys about how the employees have reacted? Are the smokers unhappy? Are the non-smokers happy with it? What can you tell us about the results of your policy?

Mr. THACKER. As far as I'm aware, there have been no surveys by GSA conducted about the issue. I think based on the response of the representatives of the largest tenant agencies of GSA in discussing this matter at least on two separate occasions with them recently, there seems to be overwhelming support for extending the ban further than it has already been extended—that is, prohibiting smoking more aggressively in public buildings than is now allowed.

Mr. DUNCAN. When you say "overwhelming support," you're talking about among Federal employees?

Mr. THACKER. Among the representatives of these tenant agencies that account for a large portion of the million or so employees. But I do want to be clear, Mr. Duncan. GSA has not consulted, at this point, with any of the national labor unions about this matter, although I understand some of the tenant agencies have done so.

Mr. DUNCAN. When you say "overwhelming support," have you taken surveys on that, or is that based just on comments?

Mr. THACKER. Just on the comments in these general meetings.

Mr. DUNCAN. The staff tells me that there was a recent draft regulation put down by the Department of Health and Human Services regarding smoking in the Federal work place. Are you familiar with that and what it says?

Mr. THACKER. I am familiar generally with that executive order that was drafted by the Department of Health and Human Services before the change in administration. I understand that that is being revisited. It was not signed by outgoing President Bush.

Mr. DUNCAN. What does that say? They don't seem to know exactly what it says.

Mr. THACKER. It generally, I understand, would have accomplished the prohibition against smoking in the Executive branch's public buildings and would have, in fact, included more than just the kind of space under GSA's control. It would have been a Government-wide ban within the Executive branch with some very specific exceptions in the executive order, primarily, as I remember, to housing facilities that were used for housing, say, for the military.

Mr. DUNCAN. I see. So it would have gone far beyond the property that GSA controls.

Mr. THACKER. That's correct, yes, sir.

Mr. DUNCAN. What percentage of the Federal buildings in the GSA inventory have separate ventilation areas?

Mr. THACKER. Very few. I would say almost none, although there are buildings being built today that, at the specific request of one of the tenants or others, would have separately ventilated smoking areas. But at present, I would say there are very few, largely because there have not been a lot of Federal buildings constructed in the past few years. There are a number under way now, of course.

Mr. DUNCAN. Would that be an expensive procedure to retrofit those buildings?

Mr. THACKER. To retrofit existing buildings could be more than just expensive. It might be impossible to do. In new construction, we've developed an estimate that it might run from $30 to $50 a square foot to separately ventilate a small room, and it then, of course, has some recurring costs for replacing the filters in the system and so on. In older buildings, it might be extremely difficult to provide a separately ventilated area.

Mr. DUNCAN. Does your agency monitor for airborne pollutants, or do you leave that type of thing up to the EPA and others?

Mr. THACKER. We monitor, when required, but not on a continuing basis in every building. But if there is some reason to suspect a problem in a particular building, or if there is some ongoing work in a building, say, for asbestos removal, that would cause some concern. Then, yes, we would monitor. But we don't monitor every building on a continuing basis.

Mr. DUNCAN. Besides the comments that you mentioned earlier from certain, I guess, top officials that you've talked with, have you received any letters or petitions that you know of yourself from, let's say, the rank-and-file Federal employees to expand the GSA smoking policy?

Mr. THACKER. I've personally seen one or two. I would not say a lot, simply because I think most of the complaints would initially go to the head of the department or agency for which an employee works. But I have personally seen a couple of letters that have come to my office from Federal employees expressing concern about the fact that secondhand smoke has now been designated as a Class A carcinogen and expressing concerns about being exposed to that secondhand smoke in the work place.

Mr. DUNCAN. Do you have any idea what percentage of Federal employees smoke?

Mr. THACKER. I don't. I would assume that it must be close to the national average, which I think now is about 25 percent of the population, a quarter of the population.

Mr. DUNCAN. Do you think it would take a lot of time away from employees' work if they had to go outside of buildings to smoke instead of to designated smoking areas?

Mr. THACKER. I think there probably are a number of facilities where that is the only possibility—that is, the employees actually have to leave the space and go outside. I really don't know. I can see that it might certainly take several minutes to go outside the building or to a designated smoking area and smoke. It would probably be best to actually ask that question of some of the agencies with that kind of a practice.

Mr. DUNCAN. Well, one last related question. Our Aviation Subcommittee went a few days ago, and one of the places we went was to the Boeing plant outside of Seattle, and I noticed they had employees who had to leave the building to smoke. Have you had any contact or seen any studies or read any articles about companies that have instituted that type of policy and what their record is or what their findings are in regard to that?

Mr. THACKER. I have not personally, no, sir. I know there are many, and I know there are in fact some buildings just in the Washington, D.C., area, for example, where, because of particular concerns about the air circulation problem, smoking is allowed only outside the building. You can walk up and down the streets and see smokers standing outside in all kinds of weather smoking.

Mr. DUNCAN. Okay. Thank you very much.

Mr. TRAFICANT. Thank you, Mr. Duncan.

Ms. Norton?

Ms. NORTON. Thank you, Mr. Chairman.

Mr. Thacker, how many buildings does GSA currently control?

Mr. THACKER. About 7,800 buildings nationwide, which accounts for some 260 million square feet of space. That's about 10 percent of the Government-wide inventory of space, but it accounts for some million Federal employees. We house about a million Federal employees in that space, and it accounts for about 40 percent of the general-purpose office space.

Ms. NORTON. How much of this space is leased space, Mr. Thacker?

Mr. THACKER. About 45 percent of the total is leased space. The other 55 percent would be in Government-owned facilities.

Ms. NORTON. Is any of the leased space subject to GSA's nonsmoking policy?

Mr. THACKER. All of the leased space is subject to the same regulations as Government-owned space. There is no distinction in the regulation between Government-owned and leased.

Ms. NORTON. Does this occur when the Government shares a building with others, State or private parties?

Mr. THACKER. The space that's actually under lease to the Federal Government is subject to the current regulation. That is, smoking is prohibited, except where the agency head has designated within that leased space specific smoking areas.

Ms. NORTON. Do you have any information on whether or not this policy in leased space has had an effect on others sharing leased space with the Federal Government?

Mr. THACKER. I have nothing in a general way. I only have some personal anecdotal information about that kind of a problem.

Ms. NORTON. I'd like to hear what that information is.

Mr. THACKER. I was actually located in a leased building here in the District for several years, and when we moved into the building, we had the private office areas designated as smoking areas. Over time, we received a number of complaints from other tenants in the building who did not allow smoking at all in their space. They complained that secondhand smoke was being circulated throughout the building from our office areas, and we eventually banned smoking within those office areas to comply essentially with what the other tenants in the building were already doing. So our employees who wanted to smoke went outside the building to smoke.

Ms. NORTON. The preferable policy, then, would be even in leased space to have a uniform policy, where that would be possible.

Mr. THACKER. I think you're touching on something of a troublesome area, yes, ma'am, and that is that it works both ways. If we have a very stringent policy prohibiting smoking entirely, then if we're a minor tenant in a leased building which has the normal 75 to 85 percent recirculated air, then it might be very difficult for a lessor to provide our space totally smoke-free if the tenants are allowed elsewhere in the building to smoke. On the other hand, we're probably causing some problems, as I outlined, for lessors who have a smoke-free environment in the rest of the building by our allowing Federal employees to smoke in designated areas within leased space.

Ms. NORTON. Do you think the Government is ahead of or behind the private sector in this regard?

Mr. THACKER. I think in many localities we are ahead, and in others we're probably behind.

Ms. NORTON. On the question of inside versus outside, does GSA encourage, for example, use of outside space as well for smokers?

Mr. THACKER. We haven't encouraged or discouraged it. I think we have really left it up to the individual departments and agencies to comply with the general regulation. That is, the general policy is to have a smoke-free work place and allow smoking only in specifically designated areas. So I think in many buildings that may have been the conclusion of the tenant agencies that smoking outside was the only real solution.

Ms. NORTON. Probably the most effective solution if you want to keep secondary smoke from recirculating in the building.

Mr. THACKER. Yes, to have no smoking at all inside. Yes, ma'am.

Ms. NORTON. You say you've done no studies to indicate how successful this policy has been. Are there any ways to enforce this policy?

Mr. THACKER. I think only in the sense that each head of a department or agency is ultimately responsible for enforcing the regulation. My understanding is that most of them take it very seriously and do enforce it. There may, again, be individual offices where it is a continuing problem, but I think for the most part, from what we understand, it is supported by managers as well as employees and is somewhat self-enforcing.

Ms. NORTON. Of course, one advantage of law over regulation is that an enforcement mechanism is more easily built into law.

Mr. Chairman, I must say another advantage of law over regulation is that law might apply this policy to the House of Representatives. As one who has gone in the 4th floor ladies room of Longworth to discover it each day more and more filled with smokers as somebody decided that that is to be the smoking area, I have seen the advantage of having the laws and regulations of the United States apply to those of us in the House of Representatives.

Indeed, the Joint Committee on the Organization of Congress, on which I serve, is right now considering how to and whether to apply most of those laws to the Congress itself, and I just want to say in light of the initiative you've taken here on this very important subject about which there has been very recent scientific evidence, if I had my druthers, there would be few laws that I would apply to the Congress before I would apply this law as well.

Mr. TRAFICANT. I agree with you, and I appreciate that. Does that mean by your comments that you are personally going to deal with the issue of Chairman Brooks' cigar? [Laughter.]

Ms. NORTON. I pass that on to my Chairman. [Laughter.]

Mr. TRAFICANT. I thought you would. I appreciate that.

Mr. Tucker?

Mr. TUCKER. Thank you very much, Mr. Chairman. I think a lot has been covered already. Just a couple of questions.

First, let me say, Ms. Norton, that if you need any testimony or support on that in the joint committee, I would be more than happy to support the position that that should apply to Congress.

Mr. Thacker, are you aware that other States have such a ban?

Mr. THACKER. Yes. In fact, I think the Chairman made reference this morning to an article that has just appeared in the Washington Post where Governor Wilson in California has placed a ban on smoking in space either owned or leased by the State of California.

Mr. TUCKER. Being from California, just as a matter of commentary, I'm more than happy to see that occur. I'm informed that there are, what, six or seven other States that have similar bans?

Mr. THACKER. I'm not personally aware of the others, but I'm not surprised to hear that there are others, and probably some municipalities as well have taken that step.

Mr. TUCKER. Are you aware or informed of how many people die as a result of smoking per year?

Mr. THACKER. I'm not aware of the specific number, no, sir.

Mr. TUCKER. You are aware, however, that there are several deaths as a result of secondhand smoke per year?

Mr. THACKER. Yes. I think the EPA study on which their decision was based defines that very well and explains very clearly why they reached the conclusion that secondhand smoke should be added to the list of Class A carcinogens.

Mr. TUCKER. My information is that the number is somewhere around 53,000 deaths per year. Does that sound consistent with the information you have?

Mr. THACKER. I believe that is correct, but perhaps Dr. Hoyt, when he speaks later, would be able to address that more exactly.

Mr. TUCKER. Would that be an integral factor, an important factor in your overall determination that this type of a ban should occur for the purposes of health reasons throughout all Federal buildings?

Mr. THACKER. I think clearly once the EPA study was completed and it made its decision, then the matter moved very clearly from the area of convenience or inconvenience to individual employees to a matter very clearly of health and safety for non-smokers, both employees and the public who come into public buildings.

Mr. TUCKER. Would there be any other attendant or supportive reasons, such as productivity or morale, that would factor into the establishment of this type of a ban?

Mr. THACKER. Oh, I'm certain, and in addition, I think there are some very practical reasons as well. That is, again, because of the recirculation of air in most modern buildings, there is a cost associated, although we haven't done any particular studies at GSA, with having to clean spaces, for example, in which there are smokers. Certainly, it doesn't go away. The chemicals in the smoke attach themselves to surfaces, and there is some additional cost of cleaning those surfaces, as the fleet management people found, I think, in reselling automobiles that are excess to the needs of the Government.

Mr. TUCKER. So would it be fair to say that the countervailing arguments on either side would be, on one hand, I guess pro-smokers would say that the cost of having smokers go outside, the inconvenience and the cost to productivity, weighed against the cost of cleaning, the cost of risk to life and health and morale and productivity, on the other side, would be the kind of balancing that we're dealing with here?

Mr. THACKER. Those would at least be the benefits and costs, yes. There probably are others. As we talk, we could probably come up with even more.

Mr. TUCKER. Thank you very much.

No further questions, Mr. Chairman.

Mr. TRAFICANT. Thank you, Mr. Tucker. As a new Member when I look back eight years ago, I see you there, and I appreciate your participation.

Mr. Clyburn?

Mr. CLYBURN. Thank you, Mr. Chairman.

Mr. Thacker, you said there are about one million employees occupying space——

Mr. THACKER. Under the control of GSA, yes, sir.

Mr. CLYBURN. Have you done a survey of those one million people to see where they stand on this issue?

Mr. THACKER. No, we have not. Again, consultation has been largely with the representatives of the agencies in which they work, but not a Government-wide survey. Again, I think the consultation seven years ago before the initial prohibition was issued with the national labor unions indicated a good deal of support for that decision at that time.

Mr. CLYBURN. You said the labor unions indicated that there was a good deal of support for the position——

Mr. THACKER. Again, I wasn't involved in the direct negotiations or consultations with the labor unions, but I think that out of those consultations came a support for the initial prohibition seven years ago.

Mr. CLYBURN. For the initial prohibition.

Mr. THACKER. Yes. Currently, we have not consulted with national labor unions about a wider ban, although I think some of the departments and agencies who have employees represented by those labor unions have had some consultations with them.

Mr. CLYBURN. But you would not be opposed to doing all of that before you go to any wider ban?

Mr. THACKER. Depending on what vehicle you might want to use to do that. Certainly, if we were to issue regulations from the General Services Administration, we would certainly do that. I think if, for example, there were an executive order issued—currently, one is being reviewed by the Department of Health and Human Services—then the consultation would be carried out by another executive agency, probably not the General Services Administration.

So I'm just saying that if we issued the regulation, certainly we would do that. If some other party issued the regulation or if there were legislation, then someone else would probably do that.

Mr. CLYBURN. You indicated earlier that you knew of no cost involved or you said no studies were done to determine the costs involved. To follow up on Ms. Norton's question, suppose in a building where you occupy maybe 50 percent of it and the other 50 percent is occupied by a private company without a ban, what would be your solution to that? Would you move out and go to some other building?

Mr. THACKER. We might compare it to the current policy on asbestos, and I'm conjecturing, because we would certainly need to discuss this not only within the Government, but also with people who lease space to us. But the current policy regarding asbestos is that GSA will not lease space that contains asbestos. So it might well be that if we had a requirement to have a smoke-free environment for Federal employees in a leased building, that if a lessor could not meet that requirement for whatever reason, we would not lease that space. If a Federal agency were already in the space perhaps, when the lease came up for renewal, if it were fairly short-term, that particular location would no longer be eligible to lease space unless it could comply with the ban.

Mr. CLYBURN. Then in order to implement this policy, if it were to go into effect, there could be significant costs involved in the implementation of the policy.

Mr. THACKER. That's assuming that the cost of leasing space in a smoke-free environment would be more costly than leasing comparable space in a building that couldn't provide a smoke-free environment, and I'm not sure that we could say that would be the case.

Mr. CLYBURN. Well, that's not the only assumption you could make here. It may mean moving out of there, the cost involved in moving out of the space.

Mr. THACKER. Physically moving, yes.

Mr. CLYBURN. Well, that would be a cost, wouldn't it?

Mr. THACKER. Yes, it would.

Mr. CLYBURN. Okay. What would your reaction be to an employee who would—take this another step and say that Employee A, who went outside to smoke and came back to the office or the work station, and Employee B, smelling that smoke in Employee

A's clothes, then would feel that that's offensive and that could be a health problem. Do you see this policy going to that extent?

Mr. THACKER. I don't. I don't know that there are any studies that would indicate that is a health problem. I think the study has to do with the actual smoking within the space as opposed to simply having the smell of smoke on clothes. I'm not aware of any studies that would indicate what you just described is a health problem. It may be offensive to an individual employee, but I'm not sure that we have evidence it is—again, perhaps Dr. Hoyt would be able to answer that more exactly.

Mr. CLYBURN. All right. So you're saying that the policy, then, should turn on health alone?

Mr. THACKER. It currently does, yes, and I would assume that all of the discussions I've heard about either proposed regulations or legislation deal with health and safety issues.

Mr. CLYBURN. Well, am I wrong in recalling that when the policy was first written, I think in 1986, that there was also—I don't think it was anecdotal. It took into consideration the rights and privileges of non-smokers as well.

Mr. THACKER. Yes.

Mr. CLYBURN. So, then, the current policy itself is not totally resting on health.

Mr. THACKER. The current policy, again, I think was based on evidence that, both for health reasons and for other reasons, employees should be entitled to a smoke-free environment. In order to accomplish that at the time, I think the idea was that if smokers could be physically isolated from non-smoking employees, that that would be sufficient, and that was usually accomplished by simply having a space or spaces within a building designated for smoking, and smoking was not allowed anywhere else within the building.

But I think once the Environmental Protection Agency concluded, based on the study it had done, that secondhand smoke is more than simply an inconvenience, that it is in fact a carcinogen and a Class A carcinogen, we looked then at the reality of where the air comes from in modern office buildings. The reality is, again, that 75 to 85 percent of the air within a modern office building is actually recirculated—only 15 to 25 percent of it is brought in fresh on a particular cycle—and that secondhand smoke anywhere in the building was likely eventually to recirculate to some extent throughout the rest of the building.

I think we may have come to that conclusion anyway over time, but I think the criticality of the issue certainly is accelerated when EPA made its decision to add this to the list of Class A carcinogens.

Mr. CLYBURN. This is my last question, Mr. Chairman.

Do you think in an ultra-modern building that allowed for the recirculation of air or allowed for independent units wherein the air would not be recirculated throughout the entire building, then this policy would not rest on health grounds?

Mr. THACKER. Yes, that would be true. I think, if I follow your question, it would be possible to create in the space an area that is sealed off from the rest of the space in a building, where the air is not recirculated from that space into the rest of the building and where the smoke is ventilated directly to the outside, without an opportunity to mix with the other air in the building. It certainly would be possible to create that kind of a space.

Mr. CLYBURN. So if that were true, then, a ban on the building would then go outside of the health policy.

Mr. THACKER. I think the reality of our problem is that creating that kind of a space is very difficult and perhaps impossible to do in many of the buildings we're now in, Government-owned and leased. It is less of a problem, certainly, if you're building a new building to provide that kind of a space.

Mr. CLYBURN. Just for the record, I want you to know that the State agency I ran, Mr. Chairman, had such a building, and we did have a separate air conditioning unit that recirculated aside from the building, and it didn't cost us a lot of money to do that, either.

Mr. THACKER. Our estimate, again, is about $30 to $50 a square foot to construct such space, and they're usually not extremely large, depending on how many people are in the building.

Mr. CLYBURN. Right. Absolutely.

Mr. TRAFICANT. Thank you, Mr. Clyburn.

Ms. Norton, do you have a question?

Ms. NORTON. I have one followup question, if I can, Mr. Chairman.

You indicated no data is available on the effects of this policy, but do I understand you to say that the employee representatives, whom I like to call unions, have been strong supporters of this policy?

Mr. THACKER. I need to be very exact, I think, about what we have done recently. When the policy was initiated seven years ago or so, there was at that time, I think, a very wide consultation both at the national level with six of the national labor unions and, I think, within individual departments and agencies with the particular labor unions representing employees in those departments and agencies. The prohibition on smoking in public buildings that came out of that regulation seven years ago, I think, was supported as necessary and sufficient at that time by the labor unions.

In looking at the current situation—that is, the need to review that policy as a result of EPA action—we have consulted with management of the major departments and agencies that make up the million or so Federal employees in GSA-controlled space. We have not directly consulted with any of the national labor unions about this question. I think, though, some of the departments and agencies have done so. I'm not personally aware of the outcome of that.

Ms. NORTON. As I recall your testimony, did you not earlier say that some of the unions would prefer the policy to be even stronger than it is?

Mr. THACKER. I'm not directly aware of that. I know the tenant representatives—that is, the management that met with us to discuss the issue—had a consensus that the policy should be extended to include absolute prohibition in public buildings. I don't know if that reflects any of their conversations individually with labor unions.

Ms. NORTON. Do you know of any labor union opposition to the policy?

Mr. THACKER. I personally am not aware of any.

Ms. NORTON. Mr. Chairman, I indicate those questions in light of the absence of data on where employees stand, because labor union leaders have to be elected, and I doubt that they would support something that their members did not strongly support.

Mr. TRAFICANT. I appreciate your comments. This is more or less dealing with Government policy in some foundation. We will be holding a hearing on the bill itself, H.R. 881, and representatives from all philosophies on the issue and health concerns and support and non-support, et cetera, will be brought before that particular hearing, and labor representatives will also be there to offer their words of testimony as well. So that will be handled as we deal with H.R. 881.

In addition to that, I would like to say just briefly before we move on here that we will be marking up H.R. 490 immediately after this hearing. I'd like the Members, if they could hang in here with us, to move forward.

I just have one brief question that might call for just a one-word answer, and I want to commend you again, Mr. Thacker, for your forthright nature in giving us your information. But Chairman Applegate had to leave, and he said, "I'd like you to just ask one question that just needs a one-word answer." He says, "Do you personally support GSA policy?"

Mr. THACKER. I support the current policy, and I personally would support a much stronger policy.

Mr. TRAFICANT. Thank you very much. Thank you, Mr. Thacker.

Our next witness is Dr. John W. Hoyt, Chairman, Department of Critical Care Medicine, St. Francis Medical Center, Pittsburgh, Pennsylvania.

Doctor, good to see you here.

TESTIMONY OF JOHN W. HOYT, M.D., CHAIRMAN, DEPARTMENT OF CRITICAL CARE MEDICINE, ST. FRANCIS MEDICAL CENTER, PITTSBURGH, PA

Dr. HOYT. Thank you.

I'd like to speak from the perspective of being an intensivist. That's a new term that's maybe about 5 or 10 years old, and it relates to physicians who devote their entire practice to working in intensive care units in hospitals around the country. I'm here representing the Society of Critical Care Medicine, which is an organization of 7,000 people that includes physicians that work in intensive care units around the country.

Probably the best way in which I could relate the effects of smoking that I have seen in my practice—and I've been the director of an intensive care unit either at the University of Virginia or in Pittsburgh since 1976—would be to relate a case presentation, and this occurred last Wednesday night when I was on call in the Medical/Surgical Intensive Care Unit at St. Francis Hospital in Pittsburgh.

A patient, Mr. M, was seen in the emergency room around midnight with very prominent shortness of breath. He had been losing weight over the last six months, 25 to 30 pounds, and he had felt particularly poorly over the last week. He thought he had the flu. When he was seen in the emergency room, he was cyanotic, or blue, because of getting inadequate oxygen. When oxygen was administered, he didn't do a very good job of picking it up, because his breathing was so impaired.

A chest X-ray showed the entire right upper lobe of the lung was involved in a process that we weren't quite sure what it was, and it's going to turn out to be a combination of lung cancer and pneumonia. He was admitted to the intensive care unit, and I had to place a tube in his airway and start him on a breathing machine, and he is still there dependent upon that breathing machine as we attempt to document the type of cancer he has and to be able to pick the right therapy for him.

The sad news is that no matter what we do, this man has a 95 percent chance of dying within the next year. He has been a smoker, a pack a day, for over 30 years, and as I mentioned, he's only 52 years old.

Now, smoking has an impact on two organ systems primarily, and there's a tremendous fear, I think, among all of us and particularly in the general public about cancer, and smoking definitely causes lung cancer, and that is as a significant issue as it is in Mr. M. Smoking, though, also causes emphysema and chronic obstructive pulmonary disease. The lung is a very delicate architecture of tubes and sacs where gas and blood must match in order for oxygen to be picked up, and smoking, whether a smoker or passive smoking, damages those tubes and sacs so that you don't pick up an adequate amount of oxygen.

I think in some perspectives a worse fate than lung cancer is a life of chronic obstructive pulmonary disease. It's five or 10 years of tremendous shortness of breath, which is a very uncomfortable sensation. It's frequent episodes of mechanical ventilation, and it's a wide array of different medications that you have to take in order to keep yourself going.

Mr. M's hospital bill will probably be $40,000 or $50,000. The hospital bill over five years for somebody with chronic obstructive pulmonary disease is in the hundreds of thousands of dollars. So when we're in a time of a lot of concern over health care costs, when one looks at the impact of smoking on the cost of health care, it really is quite phenomenal. Billions and billions of dollars have been projected.

The second effect of smoking is on the heart, and I think sometimes people are not as aware of that because we're so very much focused on smoking causing lung cancer. Smoking causes blood vessels to narrow. It progresses what is a hardening of the arteries, and narrow blood vessels don't carry blood and oxygen to the organs that are on the end of those blood vessels. When the vessels get narrow, they clot off, and when vessels clot off that go to the brain, you have a stroke. When vessels clot off that go to the heart, you have a heart attack.

So smoking causes cerebral vascular disease, or stroke, causes coronary artery disease, chest pain, heart attacks, and if you look across the country, one of the most expensive aspects of health care is this whole business that's grown up over coronary artery disease. Cardiologists, cardiac surgeons, intensivists like myself are spending billions of dollars doing cardiac catheterizations and angioplasties and coronary artery bypass grafts.

Now, that's what happens if you are a smoker, and the question which I know is of importance to this panel is, what is the issue of passive smoking, and to what degree should that be limited? The EPA report has been mentioned already. It's estimated that at least 3,000 people die of lung cancer a year who are non-smokers, but are just exposed to passive amounts of smoke.

In preparing for my journal club, which I'll have at St. Francis Hospital at 5:30 when I go home this evening, I went through the journal "Chest," and sure enough, there it is, an article on the effect of passive smoking on patients and normal people who have reactive airway disease. If you take a person who's never had any asthma and you expose them to smoke, you don't see a reaction to that passive smoke. But if you take somebody who has a little bit of asthma—and asthma is very much on the rise in our society, particularly among children—you have a substantial change in the pulmonary function test associated with as little as two parts per million of the waste products of smoking.

So if a child or an adult who has a tendency to react is just near somebody or in a room where smoking has gone on, they absorb the carbon monoxide and the various products of smoke, and they begin to alter these tubes by constricting them, these tubes that are necessary in order to get oxygen down into the lung.

So speaking, then, from the medical perspective and certainly from the perspective of the Society of Critical Care Medicine, this is a tremendous health hazard. We've known it for smokers specifically, but what is becoming more and more of an issue is the people who are non-smokers but are in the same room or restaurant or building where there's poor ventilation, and that really is rising as a relevant issue in the medical literature, and I would submit the article in "Chest" as indicative of that.

St. Francis Hospital just had its visit from the Joint Commission for Accreditation of Hospitals. They went around, and it is now a 1993 rock-solid policy you do not smoke in health care facilities. If you want to smoke, you go outside. So that is a—you know, hospitals have had to deal with it. We've gone through all of the difficult issues that have been brought up here of people having to go outside in order to smoke, but what you find is that many times people reduce or quit smoking rather than to go through some of those hassles.

So I think a policy which really strongly limits or bans smoking in Federal buildings will change behavior, and it will do a great deal to improve the health of the Federal employees and others who must work in these buildings.

Mr. Chairman, I appreciate this opportunity to express my opinion.

Mr. TRAFICANT. Doctor, I thank you for summarizing as well, because you have a broad knowledge you brought with you. We didn't bring any opposition people here because it wasn't designed for that, but I appreciate the fact.

One of the questions I was going to ask you, because of health implications, is what the health service providers do, and I think you answered that. But I think it would be fair to ask, then, I think the Government's concerned, and should be, about productivity. Would it be fair to say that a worker that is healthy and in a healthy environment would produce more work?

Dr. HOYT. Unfortunately, now when you go in any major hospital in the United States, the people who have not been able to shake it are all lined up at the front door or out back where the Dempsey dumpsters are, and they're down there and back, and down there and back, in as many breaks as their supervisor will allow. I believe that has an impact on productivity, and for those health care workers who don't have to make those trips down to maintain their blood level of nicotine, I believe their productivity is higher.

In health care, I worry specifically about the issue of not losing track of where you are in the care of a patient. Let me explain what I mean. If you're a nurse and you're taking care of a very critically ill patient in the ICU, you're like a flight controller. You've got a lot of things going on in your mind about the various systems and data coming in on that patient. If you have to break away and run outside in order to smoke a cigarette and come back, you tend to lose track of some of those issues. So you lose your focus on what's going on, and that has a productivity effect also.

Mr. TRAFICANT. Thank you, Doctor.

I'm going to yield to Mr. Duncan, who has another meeting.

Go ahead, John.

Mr. DUNCAN. Thank you, Mr. Chairman.

Dr. Hoyt, thank you for coming here today. Let me ask you this. You mentioned the great health care costs associated with smoking. We spent approximately $817 billion on total health care costs in this country last year, and, of course, it's going to go up from that this year. Do you know, rough guess, what percentage of those costs would be related to smoking?

Dr. HOYT. As best can be predicted in data coming from the CDC, we're looking at $50 billion to $100 billion of that that could very much be directly related to smoking.

Mr. DUNCAN. As I said at the first of this hearing, no one in my family ever smoked, and I'm not really used to it, and I'm anti-smoking and try to encourage young people when I go speak in the schools not to smoke not only because of the health concerns, but because of economic factors. It's a very expensive thing. Yet I have many very close friends who smoke, as I suppose all of us do. One of the men who I came to Congress with, Congressman Mel Hancock, who's one of my closest personal friends, is a smoker, and all of us, as I say, know people or are maybe even related to people who smoke.

I tried to say at the first that I'm anti-smoking, but not anti-smoker. Is there a balance there? In your experience with health care workers, the ones who smoke, has there been a problem or has there been a reaction against this making them go outside of buildings? And how do you handle it in the hospitals when you get smokers who are patients and can't go outside?

Dr. HOYT. I can really only speak for St. Francis Hospital to your first question, and that is, yes, during the first six to 12 months when we implemented our policy, there were a lot of people that were upset. I think that can be somewhat blunted by whatever organization it is that is implementing this offering smoking cessation. The nicotine patches, et cetera, can be very, very helpful.

But after about six months of turmoil, people begin to get used to that, and I think it did not turn out to be a nasty, nasty disagreement.

Concerning the issue of smoking, if you'd permit me just a couple of minutes to reflect on friend to friend, if you're a non-smoker, you know, what might you owe to a friend who is a smoker? My story would go back to December of 1978, when I shared an office in the Department of Anesthesiology at the University of Virginia. I was a very heavy smoker. I smoked from my late teenage years up until that time. The person who I shared that room with was a very, very good friend of mine, and he really very gently and in a very friendly way convinced me that I was making a major mistake. I had small children at home at that time, and I could see the light that this was a major mistake, and friend to friend he encouraged me and helped me to be able to quit smoking.

I think it's really not any different than what a friend would do if a couple of people had been out having a few drinks and somebody had too many drinks. You don't let that person drive home. Somebody stays sober and is the driver. Smoking is every bit as serious a hazard, and from a friend-to-friend basis, we need to bring those medical aspects to our friends who are smokers and do something to be able to save their lives.

Mr. DUNCAN. Well, you mentioned six months of turmoil when St. Frances started this policy, and providing patches to get smokers off of smoking, and so forth. Based on that experience, would you recommend some three-month or six-month or some kind of warning time or adjustment period to adopt this type of policy?

Dr. HOYT. Yes, sir, I certainly would recommend that. Let people have time to know it's going to occur. Let them get involved in nonsmoking. Let them understand the real risk of smoking and adjust to the change. I think when the change comes, it needs to come in a somewhat day-and-night kind of way. Slowly implementing it doesn't work very well with smoking, because it is really an addiction. I mean, if you're going to stop, you have to stop. But let people have a chance to get ready for it.

Mr. DUNCAN. Let me ask you one other thing, and I'll preface it by saying this. The Chairman mentioned that I was from Tennessee, and a lot of people seem to have maybe a misimpression that Tennessee is a State where everybody smokes or everybody's in favor of smoking. I remember about four years ago we had the issue of smoking on the airlines, whether to make that ban permanent, and I voted in favor of making that ban permanent, and somebody told me later I was the only one from a so-called smoking State who did that. But I had sent out a survey asking all kinds of questions of my constituents, and that was one of about 20 questions or something, and I think it was 77 percent of my constituents favored keeping that ban, with a few undecided, and the rest against it. So I think that even most of my constituents are overwhelmingly anti-smoking, and yet what I want to ask is this.

The EPA, and not just the scientists at the EPA, but some scientists in recent years have found that they can get headlines by coming out with some sort of scare statements. In fact, "Nightline" last night had a thing about the cellular phones, and we've had the

Alar scare that proved to be false, and then even some of the asbestos materials.

What I'm wondering about, I have no question that smoking is harmful to people's health and that it causes cancer and heart disease and some of the other things, but I did read in some of the early articles that came out about this secondhand smoke thing, the study that EPA did and the fact that it causes 3,000 deaths, I did read that some of that study was really questionable or perhaps really skewed or flawed or not done in a really scientific way. And EPA has been bad about that in the past.

Now, I'm not trying to say that I think secondhand smoke is good for you, because I don't, but I'm just wondering, do you think that that study was accurate? And I would like to see a copy of the article that you showed a minute ago. I would like you to provide that. But have you really looked at the research that was done on that study? I don't know whether it's accurate or inaccurate, but that's why I'm asking you.

Dr. HOYT. To be honest with you, I've not looked at all of the statistics associated with the EPA work and could not testify to that, and I do understand what you're saying about how there could be a certain evangelism there that would be, you know, getting on the bandwagon. So I don't feel that I can comment on that.

But if you take a study like this one in "Chest" where it becomes rather than a prospective sort of epidemiology study, which is some of what the EPA has done, and if instead of doing that you actually do much more of a narrow scientific project where you bring volunteers for the study and do pulmonary function studies on them, which are very measurable—I mean, this is objective data, not just subjective information that may be coincidentally related and not consequentially related—and then you expose them to a fixed dose of smoke and then you repeat the pulmonary function studies and you find a marked deterioration in the pulmonary function studies, then that data really kind of knocks you over.

I mean, it's very, very convincing that that passive smoking in people who have reactive airway disease is very detrimental, because the chronic reaction in narrowing of the airways in somebody who has asthma is what down the road leads to the emphysema and the chronic obstructive pulmonary disease.

Mr. DUNCAN. That reminded me of one other brief question. I was told last year and was a little bit surprised that I had a light case of asthma, and it's not really anything that's particularly bothered me, but you mentioned a while ago that asthma was going way up or something in society today. Why is that? Is it because of air pollution, or are there other factors?

Dr. HOYT. I honestly don't know that I know or anybody knows, but the demographic information coming from pediatrics is showing a fairly dramatic rise in the incidence of asthma, and I don't know that anybody knows the reason for that.

Mr. DUNCAN. Okay. Thank you very much.

Mr. TRAFICANT. Thank you, Mr. Duncan.

Before we go on with the regular order here, Mr. Emerson, if you want to make an opening statement——

Mr. EMERSON. I have a statement, Mr. Chairman, to submit for the record.

Mr. TRAFICANT. Thank you, Mr. Emerson.

[Mr. Emerson's prepared statement follows:]

Statement of the Honorable Bill Emerson
before the Subcommittee on Public Buildings and Grounds
February 23, 1993

Bill Emerson

Mr. Chairman,

I would like to thank you and the Ranking Republican, Mr. Duncan for holding this oversight hearing to look at the various policies GSA has in place with regard to smoking in federal buildings, the current child care program, and the alternative fuels program for the Federal fleet.

I'm interested in hearing Dr. Hoyt's testimony regarding passive smoking and his assessment of the EPA's report or (risk assessment) on passive smoke. I think some very valid questions can be asked concerning the soundness of EPA's risk assessment, and I look forward to hearing his views.

I also look forward to a status report on the GSA's alternative fuel program for the federal fleet. As a strong advocate of alternative fuels, I believe their future role in helping to alleviate this country's pollution dilemma are essential.

Thank you, again, Mr. Chairman, I look forward to hearing what all of the witnesses have to say.

Mr. TRAFICANT. Before we go forward, you've brought along with you a report from a journal. Would you identify that, and I would then ask unanimous consent that it would be incorporated into the record.

Dr. HOYT. The article is entitled "Effects of Bronchoprovocation Challenge Test With Cigarette Sidestream Smoke on Sensitive and Healthy Adults." It is from "Chest," Volume 103, page 353.

Mr. TRAFICANT. Any objection to having this included in the record?

[No response.]

Mr. TRAFICANT. Without objection, so ordered.

[The article referred to follows:]

Effects of a Bronchoprovocation Challenge Test With Cigarette Sidestream Smoke on Sensitive and Healthy Adults*

Brigitta Danuser, M.D.; Annetta Weber, Sc.D.;
Andrea Lorenz Hartmann, M.D.; and Helmut Krueger, M.D.

In order to study the acute effects of environmental tobacco smoke on lung function, a cigarette sidestream smoke provocation test (analogous to a nonspecific bronchial provocation test) was performed. Ten persons with airways hyperreactive to methacholine and ten normoreactive persons were tested. A dose-response relationship was found for symptoms. The lung function of the normoreactive persons was not altered by short-time inhalation of sidestream smoke. The hyperreactive subjects, however, experienced significant decreases in FEV$_1$, FVC, and MEF50. The decrease was most pronounced after the lowest dose of 2 ppm smoke-induced CO, leading to a mean fall of 6.3 percent in FEV$_1$. Five of ten subjects with hyperreactive airways showed a decrease in FEV$_1$ of more than 10 percent during the sidestream smoke provocation, one of them a decrease of over 20 percent after inhalation of 16 ppm CO sidestream smoke. We conclude that even short exposure to low concentrations of cigarette sidestream smoke causes significant impairment of lung function in sensitive persons.

(Chest 1993; 103:353-58)

BTPS = body temperature pressure saturated; ETS = environmental tobacco smoke; MEF50 = maximum expired flow rate at 50 percent of FVC; PC20 = provocation concentration of methacholine that causes a fall in FEV$_1$ of 20 percent

Environmental tobacco smoke (ETS), which represents one of the major indoor air pollutants, refers to the mixture of sidestream smoke, released from a cigarette's burning end, and mainstream smoke exhaled by the smoker. Accumulation of ETS can lead to involuntary passive exposure of nonsmokers to clinically relevant quantities of toxic substances. The subjective responses of healthy passive smokers such as odor and eye irritation are well documented.[1-4]

For editorial comment see page 330

Using an environmental chamber, the short-term effects of ETS exposure on lung function have been examined with healthy nonsmoking subjects, both at rest[5] and during intermittent exercise.[6] The responses were minimal. Studies of objective changes in pulmonary function of patients with asthma provide conflicting results. Several authors have observed no effect of exposure to ETS on pulmonary function.[7-10] In other studies, however, some subjects with asthma demonstrated a fall >20 percent in FEV$_1$.[11-14] It is likely that differences in study design, exposure time and duration, as well as characterization of asthmatic patients contribute to the discrepancy in results obtained from these studies.[15]

The cardinal feature of asthma is a greater than normal variability in airway caliber occurring in responses to a variety of endogenous and exogenous stimuli. Even if results of lung function tests are normal, bronchial hyperreactivity can be detected by bronchoprovocation challenge testing with inhaled agents such as histamine or methacholine.[16]

Asthmatics, but also atopic persons,[17] some patients with chronic bronchitis,[18] and healthy persons after a viral infection[19] have hyperreactive airways—a total of about 24 percent of a population.[20] For the present study, persons with airways hyperreactive to methacholine were selected as sensitive. The cigarette bronchoprovocation challenge test with sidestream smoke is meant to allow comparison of the possible response to sidestream smoke with the response to methacholine in normoactive and hyperreactive subjects.

METHODS AND MATERIALS

Subjects

Two groups of individuals were tested: ten persons with hyperreactive airways and ten healthy individuals, matched for age and sex. In the text, tables, and figures, odd numbers are attributed to the hyperreactive persons and even numbers are attributed to the healthy persons. All participants were nonsmokers verified by carboxyhemoglobin measurements (mean and SD: 1.5 percent, 0.47).

We selected 12 subjects out of patient histories of the Allergy Clinic of the Zurich (Switzerland) University Hospital from the preceding 3 months. The selection criteria were presumably hyperreactive and presumably clinically stable. We asked them for participation in an experimental passive smoking study by a letter. One subject refused, and other was abroad for a longer period. Before participation in the study, subjects signed a consent form. Subjects were instructed to abstain from oral asthma medication for 48 h and inhaled bronchodilators for 12 h before the tests. Personal data, baseline lung function, provocation concentration of methacholine that causes a fall in FEV$_1$ of 20 percent (PC20), history of illness, together with data of the healthy control persons are listed in Table 1. The lung function parameters of forced vital

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*From the Institut für Hygiene und Arbeitsphysiologie, Swiss Federal Institute of Technology (Drs. Danuser, Weber, and Krueger); and the Allergy Unit, Dermatologic Clinic, University Hospital (Dr. Hartmann), Zurich, Switzerland.

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Table 1—*Subject Profiles**

Subject	Sex	Age, y	Height, cm	Weight, kg	Baseline FEV_1 ml (%)	Baseline FVC ml (%)	FEV_1/FVC %	PC20 mg/ml	History of Illness (Medication)
1	F	51	163	70	3050 (113)	3880 (117)	78	0.06	Hayfever and asthma in spring for 2 years (B, in season)
2	F	52	163	71	3060 (114)	3480 (106)	87	1.45	—
3	F	41	178	52	3300 (95)	3600 (84)	91	0.70	Chronic sinusitis, chest tightness during exacerbation (A_o)
4	F	40	171	72	3790 (116)	4510 (114)	83	>2.0	—
5	F	27	163	61	2730 (82)	3110 (81)	87	0.26	Chronic rhinitis and cough attacks for 7 years (B_o,A_o)
6	F	30	168	45	3400 (100)	3700 (92)	91	>2.0	—
7	F	26	164	52	3050 (90)	3720 (95)	82	0.08	Asthma for 20 years. Anaphylactic reaction to eggs. Exercise-induced asthma (B_o)
8	F	24	175	65	4030 (106)	4900 (109)	82	>2.0	—
9	F	25	161	51	3360 (103)	3400 (91)	98	0.80	Cough attacks and chest tightness and frequent respiratory tract infections since childhood (-)
10	F	27	163	58	3310 (100)	3750 (98)	88	>2.0	—
11	F	26	165	68	2970 (87)	3510 (89)	84	0.65	Pneumonia 6 months ago; since then, cough attacks and chest tightness (-)
12	F	24	165	70	3510 (101)	4100 (103)	85	>2.0	—
13	M	26	192	84	4270 (83)	6390 (101)	66	0.32	Chronic rhinitis since childhood. Exercise-induced asthma (C_o)
14	M	30	182	82	6090 (132)	6690 (119)	91	>2.0	—
15	M	24	182	78	4500 (93)	5810 (103)	77	0.10	Intrinsic-asthma as child; exercise-induced asthma, 4 years (C_o, B_o)
16	M	24	188	76	6310 (123)	7160 (121)	88	>2.0	—
17	M	50	164	62	2100 (62)	3250 (79)	64	0.04	Exercise-induced and nocturnal asthma for 20 years (B_r)
18	M	51	183	77	4060 (98)	4840 (92)	83	>2.0	—
19	M	24	175	66	4710 (105)	4780 (92)	98	0.32	Cough attacks with chest tightness for 5 month (-)
20	M	25	186	74	5300 (108)	6080 (102)	87	>2.0	—

*Odd numbers = subjects with hyperreactive airways; even numbers = matched pairs. PC20 = provocation concentration of methacholine which caused a 20% decrease in FEV_1; (%) = % predicted (Knudson et al. 1976); Medication: B = bronchodilator (sympathomimetic), A = antihistamine, C = cromolyn, $_o$ = occasional, $_r$ = regular.

capacity (FVC), FEV_1, and maximum expired flow rate at 50 percent of FVC (MEF50) expressed in percent of the predicted values,[21] as well as the absolute values of the hyperreactive individuals, were significantly reduced ($p<0.05$) compared with the healthy subjects. The subjects were not selected according to a history of how they reacted to cigarette smoke. However, eight of the hyperreactive and two of the healthy individuals indicated that exposure to cigarette smoke bothered them and could initiate or aggravate respiratory symptoms.

Methods

The experimental protocol was carried out with each subject on two separate days. On the first day, baseline spirometry was measured with a pneumotachograph interfaced to a personal computer (Multispiro-PC/Medical Equipment Designs, Laguna Hills, Calif). We use three expired spirometric measurements: FVC, exhaled volume during the first second of the FVC maneuver (FEV_1), and the MEF50 in body temperature pressure saturated (BTPS). The FVC maneuver was carried out at least three times in the sitting position until the deviation of the sum of FEV_1 and FVC was less than 5 percent in three curves and less than 2 percent between the two best curves. Each time only the best curve was used for further analysis. Then a standardized methacholine challenge test was performed. The challenge test was carried out by delivering via mouthpiece increasing doses of methacholine in buffered saline solution (0.03, 0.06, 0.125, 0.25, 0.5 1.0, and 2.0 mg/ml) nebulized by a nebulizer (Pari, Pari/Starnberg, Germany). A noseclip was used. The output of the nebulizer was 0.45 (0.006) ml/min (mean [SD]). The cut-off that best separates responders from nonresponders is between 1.2 and 1.4 mg methacholine per milliliter.[22] Each dose was delivered during 2 min of tidal breathing. The FEV_1 was determined 30 and 90 s after each dose. If at either time there was a 20 percent fall in FEV_1 from the baseline value (inhalation of buffered saline solution), the test was terminated. The concentration of methacholine that corresponded to a 20 percent decrease in FEV_1 was determined by linear interpolation of the last two points on the log linear concentration-response curve.

On the second experimental day (24 to 96 h after the first day), subjects returned for spirometry, and a venous blood sample was drawn for carboxyhemoglobin analysis. Then the sidestream smoke inhalation challenge test was carried out. Sidestream smoke was used as the provocation agent. A cigarette smoking machine (Borgwaldt) was placed in a small chamber (0.7 m^3) not visible to the subjects. The machine smoked a specific brand of cigarettes (Kentucky Reference Filter Cigarettes, 1.1 mg nicotine, 15 mg tar). The smoking machine (Borgwaldt) takes 1 puff per minute per cigarette of a duration of 2 s; the volume is 35 ml. In this setting, a maximum of four cigarettes have been smoked together. The sidestream smoke was trapped in the small chamber. A membrane pump (5002D/ASF, Munich, Germany) extracted the sidestream smoke at the top of the small chamber and forced it through a small opening into a fresh air flow of 300 L/min supplied by a tube ventilator (PC Mini Ventilator V3616/Micronel, CH).

The sidestream smoke-normal air mixture was generated continuously and analyzed for carbon monoxide (CO) by an infrared CO-analyzer (APMA 300E/Horiba, Kjoto, Japan) shortly before entering the inhalation tube. By varying the output of the membrane pump and the density of the sidestream smoke atmosphere (number of simultaneously burning cigarettes), the generation of different sidestream smoke concentrations corresponding to 0, 2, 4, 8, 16, 32 ppm CO was possible. The concentration could be held stable for more than 2 min with aberrations of +5 percent. All materials coming in contact with the test air were inert. For a better characterization of the applied test air, particle concentrations were measured at the mouthpiece on 6 different days.[23] Note that the CO level from sources other than cigarette smoke in the air of the experimental room was determined foregoing and was subtracted from the total CO concentration measured in the applied test air in order to get the cigarette smoke induced CO (*ie*, 0, 2, 4, 8, 16, 32 ppm). In the mean 2.4 ppm CO was measured in the room air

The challenge test was conducted by delivering increasing concentrations of sidestream smoke characterized by the smoke-induced CO concentration (0, 2, 4, 8, 16, 32 ppm CO). Subjects were told that they would breathe either smoke-polluted or normal air; no information about the increase of dose was given. Each concentration was delivered during 2 min of normal tidal breathing. A noseclip was used. Between the inhalations there was a pause of 5 to 7 min. Using a two-way valve we diverted the expired air out of the test room, thus preventing contamination. The spirometric pulmonary function was measured 30 and 90 s after inhalation If a deviation exceeded 2 percent in FEV_1 a third curve was registered. Only the best measurement was used for interpretation. After each inhalation a symptom questionnaire with four questions and a scale of five intensities each was filled in by the subject. The provocation was terminated if there was a 20 percent or greater fall in FEV_1 from the baseline value (value after the inhalation of not smoke-polluted air = 0 ppm smoke-induced CO) or when the highest concentration (32 ppm CO) was reached. After the provocation, the hyperreactive subjects inhaled a bronchodilator (salbutamol), and the effect was documented 10 min later. For the healthy subjects, a final value was registered 10 min after the sidestream smoke provocation.

Analyses

In addition to conventional statistical analyses, the following approach was used to compare the reaction to methacholine with the reaction to sidestream smoke· we characterized both reactions by the slope angle of the effect concentration curve. Methacholine bronchoprovocation data were analyzed as described by Enarson et al.[24] To describe the reaction to sidestream smoke, the slope angle between the FEV_1 value measured after the inhalation of nonpolluted air and the FEV_1 value after the first sidestream smoke exposure was used.

RESULTS

Subjective Symptoms

The short-time inhalation, even of high concentrations of sidestream smoke, was well tolerated by both groups. Symptoms were in the mean weak even at the highest concentrations. Three of the ten hyperreactive persons and four of the ten healthy persons never indicated any symptoms. Subject 19 had impressive cough attacks after 8 and 16 ppm CO sidestream smoke.

A symptoms score was plotted with the number of subjects indicating a specific symptom multiplied by the indicated intensity (a little = multiplied by 1, medium = multiplied by 2, strong by 3, very strong by 4). For each symptom the score in function of the sidestream smoke concentration is shown in Figure 1. The increase in symptoms score with increasing sidestream smoke concentrations was due to a combination of progressively larger numbers of subjects experiencing symptoms with increasing exposure, and from the same subjects experiencing progressively more severe symptoms. With the exception of the symptom "sore/dry throat," the hyperreactive group indicated more complaints than the healthy group. No healthy person experienced shortness of breath.

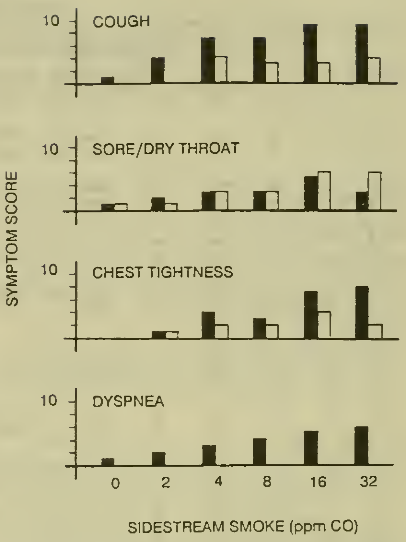

FIGURE 1. Symptom score as a function of the inhaled sidestream smoke concentrations (max value = 40). Solid bars = hyperreactive persons; open bars = healthy persons.

Lung Function

The lung function parameters measured after the inhalation of nonpolluted air (0 ppm CO) served as baseline for interpretation. The baseline FEV_1 was not different from the pretest FEV_1 measurements ($p>0.1$). Lung function values registered 30 s after sidestream smoke provocation were not different from those registered 90 s after provocation ($p>0.1$).

Five of ten subjects with hyperreactive airways showed a decrease in FEV_1 of more than 10 percent during the sidestream smoke provocation; one of them (patient 9) showed a decrease of over 20 percent after inhalation of 16 ppm CO sidestream smoke. Figure 2

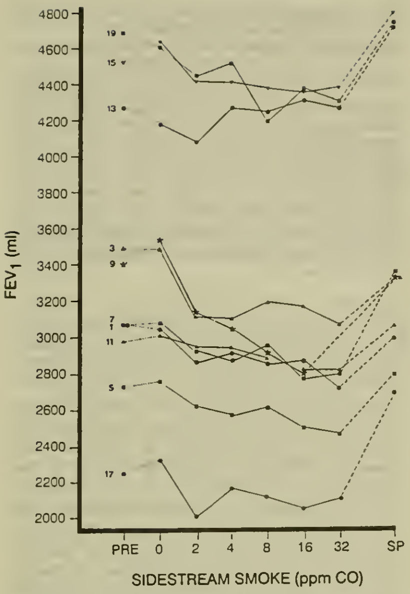

FIGURE 2. FEV_1 values of the hyperreactive individuals as a function of sidestream smoke exposure. PRE = pretest values; SP = value after bronchodilator drug.

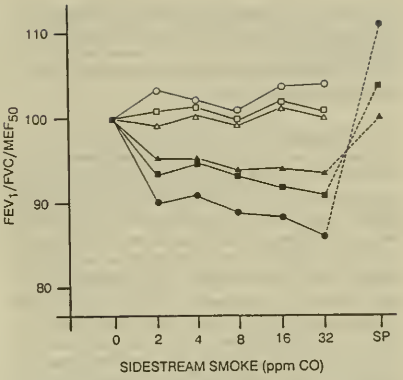

FIGURE 3. Mean values of FEV_1 = ■, FVC = ▲, and MEF50 = ● of the hyperreactive (solid symbols) and of the healthy group (open symbols) in percent of baseline values as a function of sidestream smoke exposure. SP = value after bronchodilator drug.

illustrates the measured FEV_1 values of the individuals with hyperreactive airways after the different sidestream smoke inhalations. With the exception of one person (patient 13) whose FEV_1 increased during the provocation, the FEV_1 of all the hyperreactive persons decreased. Subject 13 did gain in FEV_1 after bronchodilatation 450 ml (>10 percent), indicating that this person entered the test situation with increased airflow limitation. The mean values of the measured parameters FEV_1, FVC, and MEF50 expressed in percent of baseline values as a function of sidestream smoke exposure are represented in Figure 3. The decrease in all measured parameters was pronounced between the nonpolluted air and the lowest sidestream smoke concentration of 2 ppm CO. Table 2 lists the differences in ml between FEV_1 after the non-smoke-polluted air and after exposure to the different sidestream smoke concentrations for the two groups. The analysis of variance with repeated design showed a highly significant ($p<0.0001$) influence of sidestream smoke pollution on FEV_1, FVC, and MEF50 in the hyperreactive group, but not in the healthy group. Thus, the persons with hyperreactive airways reacted in a different way to the sidestream smoke provocation than the healthy persons. Figure 4 shows the correlation between the reaction to methacholine and sidestream smoke as described in the analyses section. The correlation was highly significant ($r = 0.82$, $p = 0.0001$). On the other hand, no relation between the reaction to methacholine and sidestream smoke within either group could be found. In the hyperreactive group, this was due to the two individuals marked with asterisks (subjects 9 and 3). They showed the lowest reactivity to methacholine in the sensitive group but a strong reaction to sidestream smoke. Without those two,

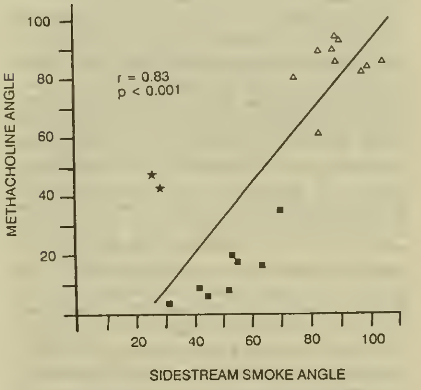

FIGURE 4. Relationship between methacholine and sidestream smoke effect on FEV_1 expressed as slope angle of the concentration response curve for both groups. Solid symbols = hyperreactive persons; asterisks = hyperreactive persons with comparatively most marked reaction to sidestream smoke; open symbols = healthy persons.

there would be a strong correlation in the hyperreactive group. There was no association between level of baseline FEV_1 or FEV_1/FVC and the decline in FEV_1 caused by short-time inhalation of sidestream smoke in the hyperreactive group.

DISCUSSION

Several studies have investigated the effect of passive smoking on lung function of asthmatic patients.[7-13] The definition of asthma and origin of asthma varies. In our study, sensitive persons were characterized by airways hyperreactive to methacholine. We exposed two groups (hyperreactive and normal) to cigarette sidestream smoke. A threshold limit value to acute ETS exposure (1.5 to 2.0 ppm CO) of healthy persons was proposed by Muramatsu et al,[1] based on eye irritation caused by sidestream smoke exposure. Our subjects inhaled the sidestream smoke with a noseclip and the test room never got polluted, so that eyes and nose as primary detectors of smoke did not come into contact with the polluted air. Subjective airway symptoms were weak. No distinction between the different concentrations of the sidestream smoke was possible and suggestibility can therefore be considered as minimal. Furthermore, contrary to room exposure, where especially the concentration of the particles fluctuates,[10,25] the applied dose was well defined.[23] On the other hand, the exposure of 2 min via mouthpiece does not copy ETS exposure in real-life situation.

With healthy persons, the inhalation of sidestream smoke had no effect on FEV_1, FVC, and MEF50. This confirms published studies.[5,11] Even with exercise during exposure, healthy subjects experienced no impairment in lung function parameters.[6,9]

Our data demonstrate that even a 2-min exposure to the lowest concentration of sidestream smoke (2 ppm CO) induced a significant decrease in the measured lung function parameters of hyperreactive persons, which is greater than the expected variability during this length of time.[26] The lowest sidestream smoke exposure of 2 ppm CO is a very realistic concentration. An investigation in 44 workrooms measured on the average 1.1 ppm tobacco-related CO (hourly average). In one third of the workrooms, the CO concentration exceeded 2 ppm CO.[27] Carbon monoxide values due to tobacco smoke around 8 ppm are rare and found only in very poorly ventilated small rooms.[28] Sidestream smoke concentrations as high as 32 ppm CO are not even achieved in very close rooms with heavy smokers. In our study, this corresponded to 1.5 mg/m^3 particles.[23] Peak values up to 99 mg/m^3 particles are encountered in proximity of the smoker.[29] Thus, the gaseous phase is overrepresented compared with the particulate phase. The relative contribution of gaseous and particulate phase of sidestream smoke in inducing adverse effects is not known.

Table 2—*Changes in FEV_1 between Baseline Values after Sidestream Smoke Inhalation**

		Sidestream Smoke (CO)					Final
		2ppm	4ppm	8ppm	16ppm	32ppm	value
Hyper-reactive group	mean (ml)	−213	−182	−240	−265	−286	+113
	(SD) (ml)	(117)	(158)	(183)	(209)	(186)	(232)
	mean (%)	−6.5	−5.6	−7.1	−8.2	−8.7	+3.4
Healthy group	mean (ml)	+25	+46	−4	+71	+30	+77
	(SD) (ml)	(81)	(88)	(92)	(142)	(149)	(125)
	mean (%)	+0.6	+1.0	−0.3	+1.4	+0.5	+1.7

*Mean differences in ml, % and SD. Final value for hyperreactive group: after bronchodilator drug; final value for healthy group; 10 min after last exposure.

The FEV_1 curve (mean and individual) of the hyperreactive persons as a function of sidestream smoke concentration (Figs 2 and 3) is characterized by an initial decline followed by a response plateau with two exceptions (subjects 9 and 13). Subject 9 showed a gradual impairment with increasing sidestream smoke concentration, the decrease exceeding 20 percent in FEV_1 after the inhalation of 16 ppm CO, so provocation was terminated. After inhalation of salbutamol, this subject reached 99 percent of the pretest value. Subject 13 experienced an improvement with increasing sidestream smoke concentrations after an initial decrease. Subject 13, together with subject 17 had the lowest pretest FEV_1/FVC ratio and the highest increase in FEV_1 after inhalation of salbutamol. One might assume that exposure to cigarette sidestream smoke has a stronger effect during an episode of airflow limitation. This was not observed with the two mentioned subjects with impaired pretest values. In agreement with Stankus et al,[14] there was no association between severity of illness as judged by baseline FEV_1, FEV_1/FVC, or medication to control disease, and the severity of the reaction to sidestream smoke inhalation in the hyperreactive group.

The reaction to sidestream smoke of two persons (subjects 3 and 9) was stronger than could be expected from the methacholine result (Fig 4). Neither subject satisfies a classic definition of asthma (Table 1). Several authors made the observation that some subjects out of a defined sensitive group reacted more strongly than others to ETS.[12,14] The sensitivity of these persons remains unknown. Furthermore, the correlation coefficient between methacholine and sidestream smoke reaction of all tested subjects is overestimated due to the low representation of the healthy, normoreactive persons, *ie*, 50 percent versus around 80 percent in a nonselected population.[20]

The precise mechanism of ETS-induced impairment in lung function is unknown. On account of the short exposure time of 2 min, we propose a response of irritant receptors. In subject 3 in whom a gradual impairment with increasing sidestream smoke was recorded, additional mechanisms are involved. Stankus et al[14] have observed that the decrease in FEV_1 corresponded more to the duration of exposure than to the exposure concentration. This suggests an additional inflammatory response. The studies of Menon et al[30] demonstrated an increase in bronchial hyperreactivity after cigarette smoke challenge in a number of study subjects (although they were clinically asymptomatic) and suggest that prolonged subclinical airway inflammation can occur in the absence of demonstrable change in airway caliber on exposure to ETS. The duration of exposure was also an important factor in the investigations of eye irritation caused by passive smoking.[31]

CONCLUSIONS

The lung function of persons with airways normoreactive to methacholine is not significantly altered by short-time inhalations of increasing concentrations of cigarette sidestream smoke. Even a 2-min exposure to a low concentration of sidestream smoke causes significant impairment of lung function of persons with hyperreactive airways. The initial decline in lung function parameters suggests an irritant type of response, but almost all slopes with increasing exposure are negative. Nonspecific bronchial reactivity to methacholine and pretest lung function parameters do not sufficiently predict and explain the reaction to sidestream smoke in all individuals, although methacholine does in most hyperreactive people. The mechanisms underlying airflow obstruction caused by cigarette sidestream smoke need further research.

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Mr. TRAFICANT. I also have an EPA-distributed manual here on "Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders." I would ask, that this be placed in the subcommittee file.

[The report referred to was received for the file.]

Mr. TRAFICANT. With that, Mr. Tucker?

Mr. TUCKER. Thank you very much, Mr. Chairman.

Just briefly, Doctor, am I to understand that given the two possibilities or two options either to have a smoke-free ventilated area versus the proposed ban that we're talking about, it would be your professional and personal recommendation that the latter would be more preferred?

Dr. HOYT. Yes.

Mr. TUCKER. All right. And would that be because you think that that latter situation would not only protect the health and safety of Federal employees, but that it would also perhaps in the long run encourage an abatement of smoking habits?

Dr. HOYT. That is correct.

Mr. TUCKER. Thank you very much, Mr. Chairman.

Mr. TRAFICANT. Thank you, Mr. Tucker.

Mr. Emerson?

Mr. EMERSON. Dr. Hoyt, I apologize I didn't hear all of your testimony, but I heard a good portion of it. I gather you're very strong against smoking.

Dr. HOYT. That's true, sir.

Mr. EMERSON. Would you advocate the outright prohibition of tobacco and tobacco products?

Dr. HOYT. In the United States as a whole?

Mr. EMERSON. Yes.

Dr. HOYT. No, but that gets into philosophical issues of what democracies are about and how those sorts of things could be policed or not policed and the past history of trying to ban such things as alcohol in this country.

Mr. EMERSON. Good answer. But how would you, then, define smokers' rights?

Dr. HOYT. I believe that in a democracy a smoker certainly has the right to smoke. They're well-informed, they're making a decision in the face of being well-informed. But that has to be in a manner and in a place such that those who choose not to be exposed to that are not exposed to it.

Mr. EMERSON. I think that's a reasonable answer. I understand that serious questions have been raised recently about how well the EPA generally has been doing with responsibilities that are entrusted to it, and this is sort of following up on questions and comments Mr. Duncan made. I also understand that in March of 1992 a panel of scientific experts were asked by the former administrator to review the quality of science used in the EPA decisionmaking, and they released a report entitled "Safeguarding the Future: Credible Science, Credible Decisions." I would like to have that report become a part of this record. [The report referred to may be found beginning on page 105.]

Mr. EMERSON. The report makes a great number of very disturbing criticisms of the way science is conducted at the EPA, such as, and these are statements extracted from the report, "EPA science is perceived by many people both inside and outside the agency to be adjusted to fit the policy. Currently, EPA science is of uneven quality, and the agency's policies and regulations are frequently perceived as lacking a strong scientific foundation." Would you comment on that?

Dr. HOYT. I don't feel that I am in any way prepared to comment on the science of the EPA, because that's not a literature that I have kept up with. I would simply say two things.

Science is very, very difficult to do well. Most of us, physicians included, don't end up getting all of the training that would be perfect to devise the perfect sorts of projects to define issues.

The second thing I would say is that if we were dealing with an issue here, smoking, both direct and passive, that relied on one or two or three projects where there could be substantial flaws, we'd have to be very careful in how we proceeded with that. But we are dealing with a recommendation that came from the Surgeon General in 1964, and we are dealing with scientific projects that would literally fill this room with paper, and all of them overwhelmingly—the good ones, the bad ones, the great ones, the horrible ones, all say the same thing, that, number one, smoking, for the person who does it, causes lung and heart disease, and it is the major thing that we do to ourselves that really causes our health to deteriorate.

This passive smoking issue, the evidence is now beginning to mount up in exactly the same sort of way. I'm sure there's good and bad science there, but the overwhelming results are in support of it also being dangerous. So I understand and I appreciate your concerns, but I think even stepping outside of the EPA there's adequate data from various arenas that physicians consider it totally socially unacceptable to smoke and to be around people who smoke in medical meetings, and we need to keep moving in that direction for all of society.

Mr. EMERSON. Well, you know, you mentioned earlier some issues relating to freedom in a democratic society, and one of the concerns that I have—and rarely do we have a distinguished physician as a witness, so we're delighted to have one here today, and while you're here, I want to take advantage of asking you some questions there.

You know, the scientific evaluation of the adverse effects of smoking is based on statistical surveys and a lot of other things, and it says so many people per hundred thousand die annually from one cause or another relating to having smoked too much, but there are a lot of other factors also involved. I mean, is it possible that some people are more susceptible to developing the ill effects of smoking than others, and some people can smoke in a reasonable manner without adverse effects?

Dr. HOYT. Smoking research is really based on two types of projects. One are epidemiological projects, which are what you described, and those are commonly retrospective in nature, gathering data and attempting to construct items that you believe to be consequential and not coincidental. There is always, with that sort of information, leaps of faith that you make. But that's why you do the second kind of research, and that is animal research or, in the case of volunteers, the kind of paper that I submitted for evidence here, and that's not retrospective epidemiologic work. That's an actual scientific project which looks at a physiologic reaction to the exposure to smoke, and that is very, very convincing evidence.

Mr. EMERSON. Are we under the five-minute rule, Mr. Chairman? I don't want to exceed my time.

Mr. TRAFICANT. Mr. Emerson, we're going to let you have the rights as a smoker and go forward.

Mr. EMERSON. Oh, so another round. [Laughter.]

Mr. TRAFICANT. No, you go right forward.

Mr. EMERSON. Doctor, I'm sure you're aware that the conclusions in the EPA risk assessment with respect to the epidemiologic studies are based on 11 U.S. studies that examine the risk of lung cancer among women married to smokers, and I wonder, is it important that not one of these studies originally reported a statistically significant in overall risk at the 95 percent confidence level?

Dr. HOYT. I haven't looked at all the details of that, but I suspect what was probably done was something called a meta analysis, where you take 11 different studies, clump all the data together, and then reanalyze it from a statistical standpoint. Again, that's retrospective population studies of an epidemiologic nature, and they're not as nice as the other kind. But I get back to my previous statement that when you pile it all up together on one side of the scale, all the studies point to the same thing and very little gets stacked on the other side of the scale that there's not substantial risk from smoking, either directly or passively. There's very little support for that second position.

Mr. EMERSON. Thank you, Dr. Hoyt.

Thank you, Mr. Chairman, for extending my time. I would ask perhaps to ask some additional questions in writing, having digested the material, if that——

Mr. TRAFICANT. That would be fine. I appreciate your attempting to expedite on that. I know that you have some significant questions, and I don't mean to make light of that, but you are a smoker, and I notice today that you did not light up, Mr. Emerson.

Mr. EMERSON. I didn't light up today in deference to a lot of people in the room. Do you want me to? [Laughter.]

I am prepared.

Mr. TRAFICANT. I just think it shows that you're a considerate person, and we appreciate that.

Mr. EMERSON. My position, Mr. Chairman, if I may say so, is that I don't think that I should smoke to the annoyance of other people. But I do believe that it is my right to smoke, and I was glad that Dr. Hoyt agreed with me in that regard. We haven't reached yet, I hope, the point that we have no choices, where Government is going to make all of these important decisions for us.

Mr. TRAFICANT. Well, it's pretty hard to argue with you on that, and we appreciate both your questions and the fact that today you chose to be smoke-free.

Mr. Clyburn?

Mr. CLYBURN. Just one question. Let me start, Mr. Chairman, by saying that I'm pro-choice across the board, and I'm pro-choice on smoking as well. I'm not a smoker, but I feel that a person who smokes ought to have as much right as I have.

Neither my mother nor my father smoked, but both of them died from cancer, and they never smoked. So I don't know, they may be exceptions to the rule, but I do believe that if we are going to rest this policy on health issues alone, if those health issues are addressed sufficiently, then this policy ought to take that into consideration. Don't you think?

Dr. HOYT. Yes, I do.

Mr. CLYBURN. So, then, you agree with me in my question to the last witness that if there is a building that has a separate ventilating system, and no air is recirculated in the main part of the building, and smoking is allowed only in that area, then that ought to be considered in this policy?

Dr. HOYT. Yes, I think that's right. The only proviso that I would put into that would be that there shouldn't be a reason, then, why a non-smoker who wants to be a non-smoker and wants to stay away from passive smoking has to, for any work-related or personal reason, enter that room. It shouldn't be the route to the bathroom. It shouldn't be the route to the cafeteria. It has to be a truly isolated room that is devoted totally to smoking, and meetings are not held in there, and nothing requires a worker, as a part of their job or personal daily activities, to go in that room. I think, in my opinion, that is a good democratic solution to the dilemma.

Mr. CLYBURN. Thank you, Mr. Chairman.

Mr. TRAFICANT. Dr. Hoyt, I'd just, first of all, like to say that we're very impressed with your testimony and the fact that you made some complicated statements very understanding to people who are not medically oriented, and we appreciate that. It's a very tough issue, the rights of society. Society has a right to protect an individual from harm, and society has a right to protect society and all from harm. This is going to be a tough issue. I think Vice Chairman Duncan really stated it when he said that we're not anti-smoker, we're anti-smoking in Federal buildings, and we're looking at that.

But I just have one last question for you, and that is this: Do you believe that a total ban on smoking in Federal buildings would be helpful to the health care needs of the Federal workers, visitors, and all of those people subject to the visit of a Federal building?

Dr. HOYT. Absolutely.

Mr. TRAFICANT. Doctor, I'm sure that you will probably be back here to the Congress, and I think there are several points that were brought out that discussed smoker rights, and that's also going to become a part of the issue, not just the health concerns. But the foundation that you've placed and the elements you brought will be spread across our record, and I want to thank you on behalf of the committee for coming here and being a witness for us today. Thank you very much.

Dr. HOYT. Thanks very much.

Mr. TRAFICANT. I would ask unanimous consent with the following witnesses that the Members would abide by the five-minute questioning rule so that we can bring out the salient points, but also move on to our business at hand here. Any objection?

[No response.]

Mr. TRAFICANT. Without objection, so ordered.

Our next witness is Dr. Patricia F. Kinney, who's the Acting Director of the Office of Child Care and Development Programs, Office of the Administrator, GSA, and we're talking about child care and the GSA and all of that.

Dr. Kinney, welcome.

TESTIMONY OF PATRICIA F. KINNEY, ACTING DIRECTOR, OFFICE OF CHILD CARE AND DEVELOPMENT PROGRAMS, OFFICE OF THE ADMINISTRATOR, GENERAL SERVICES ADMINISTRATION

Ms. KINNEY. Thank you very much, Mr. Chairman.

Good morning, Mr. Chairman and Members of the subcommittee. I am Dr. Patricia Kinney. I'm the Acting Director of the Office of Child Care and Development Programs at GSA. I've submitted my testimony for the record and have included a list of centers currently operating in GSA space, as well as a statistical profile of centers in GSA space. So I'd like to just summarize briefly the most important points.

As you mentioned earlier, the Office of Child Care and Development Programs was established at GSA three years ago. Its primary mission is to assure that Federal families receive quality child care. Currently, there are 91 centers operating in GSA space, with a total licensed capacity of over 6,700 children.

GSA provides services to its client agencies in the establishment of child care through our national network in all 10 regions of regional child care coordinators. They assist with the establishment of child care, they assist during the ongoing operations, and they assist through the entire process, even when the agencies are just initially considering child care.

I'd like to emphasize a few of our major initiatives through the Office of Child Care and Development Programs. One is that we convene quarterly an Interagency Task Force on Child Care with over 30 member client agencies. We hold a national conference for child care, which is multi-tracked. This will be our fourth year to hold the conference. It will be held in May in Portland. We've produced a number of written publications for our clients. One which is in process right now is our facility design guide. We also maintain across the country a lending library not only for client agencies, but for governing boards and providers. So we address multiple issues through our resources.

In terms of our future, GSA intends to continue its oversight and guidance responsibilities through our licensing agreements. We predict, in terms of new construction, that over the next four to five years there will be approximately 10 new child care centers constructed each year. We are heavily involved right now in expanding our smaller centers. Over the past two-year period, there were approximately 15 centers under expansion. And we are looking to renovate older centers, certainly to make them safe and healthy environments and minimize the risks of child abuse.

GSA will continue to address the interconnected elements of good delivery of good quality child care, and those are program, facility, and management.

Thank you very much. I'd be happy to answer your questions.

Mr. TRAFICANT. Thank you, Dr. Kinney. A question I have is multifaceted here. How is the child care program administered, that is, what is the role of the provider, how are they selected, and how are they monitored to ensure that these child care programs meet the goals of the General Services Administration and the oversight of GSA?

Ms. KINNEY. Currently, there are three major management models. In 60 percent of the centers, there's an outside provider. In 39 percent of the centers, the governing board serves as the provider. That might be a group of Federal employees who actually serve as the provider and hire the director directly. In the last 1 percent, there's a direct procurement, in which the agency contracts directly with the provider.

GSA has attempted to develop a licensing agreement as a means of oversighting, as I mentioned previously, programmatic soundness, financial viability, and other kinds of management issues around providing tuition assistance and so forth. Currently, our coordinators are entering into those agreements with the providers, and I've just mentioned what those three models are.

For the second part of your question as to how providers are selected, providers are generally, in most cases, selected by the organizing committees. GSA lends its professional expertise to the selection process. Agencies can send in proposals. We will do a paper review for them. If required, our coordinators will help them in the assessment of their other centers and in the evaluations of their proposal. We also make recommendations of consultants who are in the local areas to assist those organizing committees with the professional expertise.

Mr. TRAFICANT. What is a rough breakdown of costs associated with the establishment of a child care center in one of our Federal buildings? What kind of a price tag and what kind of a cost factor do you see on average?

Ms. KINNEY. In terms of establishment, I really need to defer cost questions to the Public Buildings Service. I can tell you generally that construction costs are anywhere from about $350,000 to about $1 million per center, depending on the location and the size of the center.

Mr. TRAFICANT. Would you make that available to us in written form if we would hold the record open for you?

Ms. KINNEY. Yes.

Mr. TRAFICANT. I appreciate that.

[The information received from Ms. Kinney follows:]

ITEM: ROUGH BREAKDOWN COSTS ASSOCIATED WITH THE ESTABLISHMENT OF CHILD CARE CENTERS IN ONE OF OUR FEDERAL BUILDINGS

These estimates are based on construction costs for centers built over the past 18 months. Costs will vary depending on geographical location and size of facility. The average cost for the buildout is $100 per square foot. The average cost to equip a center for 70 children is $50,000.

Mr. TRAFICANT. We've heard talk about the facility design guide. When does GSA, to the best of your knowledge, expect completion of this child care facility design guide?

Ms. KINNEY. My expectation is that it will be completed certainly within the next, at the most, probably two months. It's in the final stage. It's been through the peer review process, and this week we've been spending time in our office making the final comments. So it's in its final stage.

Mr. TRAFICANT. Speaking for the subcommittee Members, naturally we'd want you to provide the subcommittee with a copy of this guide. We would like to see that, go over it, and review it. I don't know if that's been the policy of the subcommittee in the past, but we would like you to do that.

Ms. KINNEY. We'd be happy to provide that.

[The information received from Ms. Kinney follows:]

ITEM: GSA FACILITY DESIGN GUIDE

The GSA Facility Design Guide will go to the printer within the next month. A copy will be provided to the committee as soon as it is available.

Mr. TRAFICANT. How many child care centers are located in courthouses? We're starting to see a lot more multifaceted programming types of activities around courthouses. What's the status of that?

Ms. KINNEY. I'd like to get back to you with the exact number. We have some centers that are just currently opening. In terms of the future for courthouses, we have substantial interest from the courts. I believe there are plans in California, and I'll check this for the record, to establish at least three centers in courthouses.

Mr. TRAFICANT. And that's specifically for the courthouse and the employees in the courthouse. Is that right?

Ms. KINNEY. It's really open to the Federal community. The legislation requires that a minimum of 50 percent of the children be from Federal families. Any available spaces beyond that are open to the general public. Currently, out of our enrollment, two-thirds of the children enrolled today are from Federal families; the remaining are from the private sector.

[The following was received from Ms. Kinney:]

ITEM: NUMBER OF CHILD CARE CENTERS LOCATED IN COURTHOUSES

Eight child care centers are located in courthouses or in buildings which include courthouses.

Kenneth B. Keating Federal Building and Courthouse, 100 State Street, Room 0340, Rochester, NY.

Federal Courthouse and Custom House, 515 West 1st Street, Duluth, MN.

[1] Federal Building/Custom House, 721 19th Street, Denver, CO.

Roybal Federal Building and Courthouse, 255 West Temple Street, Los Angeles, CA.

[1] Federal Building, 300 Moana Blvd., Honolulu, HI.

[1] William F. Greene Federal Building, 600 Arch Street, Room 1211, Philadelphia, PA.

Edward Zorinsky Federal Building, and U.S. Courthouse, 215 N. 17th Street, Room 1003, Omaha, NE.

Robert Denney Federal Building and U.S. Courthouse, 100 Centennial Mall, North, Room 104, Lincoln, NE.

Mr. TRAFICANT. Let me see if I can understand or interpret your comments without putting words in your mouth. If you were to be constructing today a Federal courthouse, would you be advising the Congress to make sure the design includes the type of space necessary for a child care program and, furthermore, to take a look at the total Federal community within a given region and perhaps provide the space that would accommodate for, in addition to those courthouse employees, those other Federal workers, et cetera? Would that be a recommendation you'd make?

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[1] Courthouse is located within the Federal building.

Ms. KINNEY. For the second part of your question, we would always recommend that we look at the total community and make that child care center available to the total Federal community. However, for the first part of your question, whether we recommend a center or not is going to be a function of how many Federal employees are in the area and whether or not we can substantiate building a center for at least 70 or 75 children. Those below that number are having extreme financial difficulties.

Mr. TRAFICANT. So you'd need to have a consumer population in this center of approximately 75 children for it to be cost-effective for the Government to have incorporated that. Is that what you're saying?

Ms. KINNEY. Exactly, yes.

Mr. TRAFICANT. Okay. I know there are a number of other questions here. I'd like to defer and yield to Ms. Norton on this issue, and I may have a few questions at the conclusion.

Ms. Norton?

Ms. NORTON. No questions, Mr. Chairman.

Mr. TRAFICANT. Man, that is unusual. [Laughter.]

Ms. NORTON. Because I didn't hear the testimony, Mr. Chairman, I pass.

Mr. TRAFICANT. There is a whole business here on accreditation and renewal fees. What, if anything, can you tell me about that, and what's your position on the authority for Federal agencies to pay for this?

Ms. KINNEY. As I started my testimony, our mission has been to assure that centers are good quality for families. The National Association for the Education of Young Children has the professionally accepted system for national accreditation. In our licensing agreements, we are now requiring accreditation. It gives the Federal community some assurances that there's good enough care there for young children.

The accreditation addresses many components of quality, not only curriculum, but administration, parent involvement, health, safety, nutrition, evaluation, and others as well. Because we are requiring accreditation, certainly we hope people voluntarily will go through accreditation. We believe that with these tight budgets, this is a further incentive to help centers become accredited.

The accreditation fees run $550 for our average-size center, which is 70 children. Every three years the center is required to become reaccredited, which would be the same fee. So we would support the provision that accreditation fees are covered.

Mr. TRAFICANT. Under Public Law 102–393, you are able to do certain things. What are you authorized to do in that bill that you were unable to do before that public law was enacted?

Ms. KINNEY. One of the major changes through that legislation was the ability for the Federal Government to enter into a public-private consortium. In this arrangement, we can add private dollars to the operational expenses of a child care center, which we have not been able to do before. We can thereby relieve part of the budget, and assist with salaries and benefits.

We're just embarking now on the consortium model. There is one consortium in place. The dedication, in fact, will happen tomorrow morning in Atlanta, and GSA is in the process of developing our guidance and implementation policies for that legislation.

Mr. TRAFICANT. A question I have before I yield to Mr. Duncan is, this language was language that was inserted in the appropriations bill. I believe I'm speaking for every Member of the subcommittee that we will frown on any public law becoming law through an appropriation process, and the authorizing committees, at least for now, I would say, would have to extend such authority. So we would want a close cooperation to ensure that any expansion of authority under law go through an appropriate authorizing committee, not just be an act of the appropriators. I think that's where we get into trouble on oversight jurisdiction and monitoring and compliance.

So that's more or less a statement, but I would like to offer that to you. I appreciate your direct testimony here, and I would yield to Mr. Duncan.

Mr. DUNCAN. Dr. Kinney, I'm sorry, I just got back and didn't get to hear your testimony, but you do operate 91 child care centers now. Is that correct?

Ms. KINNEY. Yes, that's correct.

Mr. DUNCAN. The staff tells me that the largest growth in the number of centers occurred between 1987 and 1990, before the creation of the office that I assume you head. Is that right?

Ms. KINNEY. I'm the acting director at the present time.

Mr. DUNCAN. Why did the number of centers grow faster before the creation of this office? Why did it slow down after the office was created? Do you know?

Ms. KINNEY. I can only speculate. It was with the passage of the Trible amendment, 40 USC 490(b), that the Federal Government was prompted to aggressively pursue the establishment of child care. Up until that point, and you'll be able to see that in our profile, there was very slow progress in establishing child care. So there were a number of centers that were built very rapidly. I believe the number was 29 within one year, in fact.

In the past three years, as we have visited probably 85 of the 91 centers across the country, we've identified a number of problems. One of them has been the weak financial viability of a number of the centers that were built very hurriedly, because they were built too small. We now proceed cautiously. We now proceed in a way that we conduct adequate needs assessments and market availability surveys so that we are assured that those are the appropriate kinds of places where child care centers need to be constructed.

Mr. DUNCAN. Let me ask you this. President Clinton emphasized the other night that his main concern, and I think the main concern of everybody today, is the tremendous national debt that we have of over $4 trillion and the deficits that we continue to have. Almost all of the child care centers around the country, or at least the overwhelming percentage, are operated privately and for profit.

I know that your goal—you don't have to make a profit, but do you have a goal of at least operating these centers so that they do not create additional losses for the Federal Government? And if that's not a goal, don't you think it should be? And how close are you coming to that at this time? In other words, how much are we losing each year on the 91 centers that are under your office at this time?

Ms. KINNEY. The goal certainly is to see that all centers are financially viable. Our licensing agreement will help us in the monitoring process. We'll be able to look at audited budgets on an annual basis and assure that centers are operating in the black. The goal is to see that the centers are in a break-even mode.

I think in terms of child care as an industry nationally, the term "profit" is a real misnomer. There is no profit to be gained through the delivery of quality child care. Oftentimes, the typical 6 to 8 percent management fee might be interpreted as profit, but in terms of the cost to parents, in terms of the salaries and benefits that we want to provide to stabilize the work force in child care, there really is no profit to be gleaned in the industry of child care.

Mr. DUNCAN. Well, even if we act like profit is a bad thing, which I disagree with, but even if we say that that's the case, still can we not agree that in the present financial condition of the Federal Government that we need not to suffer big losses? You never did answer the question I asked. How much are we losing now on these centers?

Ms. KINNEY. In terms of losses, the Federal Government does not contribute to the operational expenses of the centers. The government contributes rent, utility, and large pieces of equipment. The government is not suffering a loss, from an operational point of view.

Mr. DUNCAN. When you say "we contribute rent" and so forth, what is the typical cost to build the facilities for a child care center in a Federal building?

Ms. KINNEY. Costs have ranged from about $350,000 to $1 million. As I said before, I defer to the Public Buildings Service for the accurate numbers and will provide those for you.

Mr. DUNCAN. All right. Thank you very much.

Mr. TRAFICANT. Thank you, Dr. Kinney, for your comments. We appreciate them, and we'll be looking forward to the things that you've stated you would submit. Thank you very much.

Ms. KINNEY. Thank you.

Mr. TRAFICANT. Immediately following this next witness, we'll move forward with H.R. 490. I'd like to now call Mr. Allan Beres, the Assistant Commissioner, Federal Supply Service, General Services Administration, relative to alternative fuels.

Mr. Beres, we've all been summarizing, and you have a statement here, and I'd ask unanimous consent that a statement be accepted in the record. Without objection, so ordered.

Mr. Beres?

TESTIMONY OF ALLAN W. BERES, ASSISTANT COMMISSIONER, OFFICE OF TRANSPORTATION AND PROPERTY MANAGEMENT, FEDERAL SUPPLY SERVICE, GENERAL SERVICES ADMINISTRATION

Mr. BERES. Thank you, Mr. Chairman. I'm pleased to appear before you to present the views of the General Services Administration on incorporating alternative fuel policies into GSA's Fleet

Management Program. I would like to summarize for you at this time.

GSA's Fleet Management Division is involved in many important environmental and energy-related programs, including a significant role in the promoting of alternative fuel programs to other Federal agencies, State and local governments. We are known best, however, for our aggressive undertaking of efforts to introduce alternative fuel vehicles into the Federal fleet.

To date, over 3,600 alternative fuel vehicles have been acquired by the Interagency Fleet Management System, known as the IFMS. These vehicles operate on one of three different types of alternative fuels. First, there's methanol, known as M85, and there is ethanol, known as E85, and then compressed natural gas, which we all refer to as CNG. In addition, the Energy Policy Act of 1992 has expanded the types of fuels to include the following: liquified natural gas, or LNG; liquified petroleum gas, LPG; electricity; hydrogen; coal-derived liquid fuels; and fuels derived from biological material. Vehicles operating on these types of fuels may be acquired when those vehicles become commercially available.

GSA's interagency fleet manages over 136,000 vehicles nationwide, serving over 75 Federal agencies. The IFMS utilizes commercial facilities for maintenance, repairs, and refueling. GSA has concentrated its efforts in the Alternative Fuel Program toward the development of a commercial infrastructure, including small business, both for maintenance and refueling, which will benefit all Federal and State fleets, as well as private fleets, and as well as private individuals.

An alternative fuels program must be carried out with a balanced, practical approach. In addition, it must reconcile the importance of the Alternative Fuel Program for energy security, as well as for environmental benefits. GSA's program does this.

Thank you, Mr. Chairman and Members of the subcommittee, for this opportunity to address a matter of such importance. For your information, we have our alternative fuel vehicle directory, which lists refueling locations coast to coast, available for Members of the committee and staff. In addition, there are several alternative fuel vehicles parked outside in the horseshoe, if any of you would care to look at one of these.

That concludes my presentation, and I'll be glad to answer any questions.

Mr. TRAFICANT. We appreciate that, Mr. Beres, and we appreciate your summary. I have a few questions, and I'm sure other Members do as well.

What are the most common alternative motor fuels that GSA is employing now and using?

Mr. BERES. The three that I mentioned. There's M85, which is a methanol fuel, and this is a combination of 85 percent methanol and 15 percent gasoline, and the vehicles we have acquired there are known as flexible fuel and can operate on either M85 in its pure state or any combination of M85 and gasoline. E85 similarly is an ethanol fuel, 85 percent ethanol and 15 percent gasoline. Those vehicles that we have are also flexible fuel and may operate on either E85 or pure gasoline. Compressed natural gas is the third kind, and the CNG vehicles require special tanks to hold the compressed natural gas.

Mr. TRAFICANT. So it's like a balance between the three? There's no one that's——

Mr. BERES. We are fuel-neutral, sir, in our approach. Those are the fuels that were specified in the——

Mr. TRAFICANT. Fuel-neutral?

Mr. BERES. Yes, sir.

Mr. TRAFICANT. That's a new buzz word here.

Mr. BERES. Yes, sir.

Mr. TRAFICANT. Congress is fuel-neutral at times on the House floor. [Laughter.]

Do you offer incentives and awards for the use of alternative fuels to try and incentivize and bring more attention to it? Is there any type of awards program?

Mr. BERES. The Energy Policy Act of 1992 authorized GSA and provided funding to make awards to individuals in the Federal Government who are out in the forefront of introducing alternative fuel vehicles or really making an impact in this area.

Mr. TRAFICANT. And have you done that? Have you given awards?

Mr. BERES. No, we haven't given them yet. We have just started our awards program in terms of developing how we're going to go about finding the individuals that are worthy to be considered and then making the awards.

Mr. TRAFICANT. You have a revolving fund here, but in addition to that, how much funding from Congress is necessary to implement this Alternative Fuels Program? What do you have now, and what do you need? How are you funding-wise on this? I think this is an important program and a step in the right direction.

Mr. BERES. What we're seeing today is a real variance in what we call the incremental cost of buying an alternative fuel vehicle. It's ranged from as low as $700 up to as much as $7,000 above and beyond what a conventional vehicle of the same type would cost us. So based on those types of numbers, you can almost project, given the volume of vehicles that we'd have to obtain to meet the goals either under the Energy Act or under the President's executive order, the total cost almost a multiplication of the incremental cost times the number of vehicles we'd like to acquire.

What we're seeing, though, is definitely a trend toward lower incremental costs from the automotive manufacturers. This has been true in the methanol and the ethanol vehicles. It has not been as true in the compressed natural gas vehicles that are available as eight-passenger vans and pickup trucks.

Mr. TRAFICANT. Why is that?

Mr. BERES. I don't have the answer to that, sir.

Mr. TRAFICANT. You're working on that.

Mr. BERES. We're meeting with industry to try to get a better idea from them on these incremental costs.

Mr. TRAFICANT. Speaking of the automotive industry, have they been cooperative in assisting your efforts here in looking at some of these other alternative fuels and designs for vehicles that accommodate them? What type of relationship do you have there?

Mr. BERES. Certainly, as we've introduced these vehicles, we've run into operational problems both in terms of equipment from the manufacturers of the vehicles as well as fuels. They've been extremely cooperative in meeting with us and trying to resolve the problems that they have, getting out to the field where these vehicles are located to do the fixes that are necessary to get them in operation. We have very good relationships with all of the automotive manufacturers at this time, sir.

Mr. TRAFICANT. Does your alternative fuel policy apply to any other areas under GSA's jurisdiction?

Mr. BERES. I'm not aware of any other areas in GSA that our Alternative Fuels Program applies to at this time, sir.

Mr. TRAFICANT. Mr. Duncan?

Mr. DUNCAN. Thank you, Mr. Chairman.

Mr. Beres, all of your vehicles are non-military vehicles, I assume. Is that correct?

Mr. BERES. That's right. They are non-tactical vehicles, yes, sir.

Mr. DUNCAN. You don't have control over all of the vehicles owned by the Federal Government that are non-military, do you, or do you?

Mr. BERES. No, we do not. We represent probably the third-largest fleet, behind the Department of Defense and the Postal Service.

Mr. DUNCAN. How many other vehicles outside of the military and the Postal Service and yours, approximately, a rough guess, would the Federal Government own or operate at this time?

Mr. BERES. Roughly 300,000 outside of ours.

Mr. DUNCAN. Well, you know, I'll tell you, it just boggles my mind to think that we could have that many vehicles. How many of your vehicles have to be replaced each year? In other words, how many new vehicles to you buy each year?

Mr. BERES. I don't have that number in front of me, but I can give you some idea on what our policy is on replacement. For sedans, passenger-carrying vehicles, it's every three years or 60,000 miles, and for others such as light trucks, it would be every six years.

Mr. DUNCAN. So, then, you're replacing just thousands of these vehicles every year, because if you replaced them one every 10 years, that would be 10 percent, and that would be 13,600. Right?

Mr. BERES. That's right, sir.

Mr. DUNCAN. Are you making any efforts to reduce the number of vehicles since we're so deeply in debt and in such bad financial condition at this time? Are you making any efforts to encourage less use of vehicles or to reduce the number, or do you consider that outside the scope of your jurisdiction?

Mr. BERES. Certainly, we work with all of the agencies in terms of reducing both the number of vehicles and the amount of fuel that's consumed in those vehicles. We operate, as was earlier mentioned, through a revolving fund, and we view ourselves as the Government's professional fleet manager. We anticipate when people come to us with vehicle requirements that those are hard requirements and they're not just getting a vehicle for the sake of saying they have one. They have to pay for them. We have to be fully reimbursed for the funds that we expend so that when we receive our revenues through our rentals and the revenues through the sale of our vehicles, they cover all of the expenses of managing and operating that fleet.

Mr. TRAFICANT. Would the gentleman yield to me for a minute?

Mr. DUNCAN. Yes, sir.

Mr. TRAFICANT. In line with your question, and it's a very good question, now that you're dealing with the agencies and you're starting to make your requests, is there a recommendation that will be coming from GSA to reduce in numbers the size of this fleet and to reduce costs? Is that a recommendation that will be coming forth from the agency?

Mr. BERES. I think all of the agencies now are under the gun to reduce as much as they can all of their costs, including the costs that they expend on vehicle support. It has always been our position and we continue to highlight cost reduction efforts in the management of our fleet. So if they come to us, they can be assured that they're going to get the least-cost transportation available.

Mr. TRAFICANT. But to the best of your knowledge, are you recommending a reduction in vehicles this year?

Mr. BERES. We are always asking them to carefully review their requirements for vehicles, never to request vehicles that aren't absolutely needed to meet their mission requirements, sir.

Mr. TRAFICANT. I yield back.

Mr. DUNCAN. Well, have the number of your vehicles stayed the same, or has it gone up in recent years?

Mr. BERES. It's gone up, and the reason it's gone up is that we have consolidated vehicles from other departments and agencies. Most notably, the Department of the Army has come to us for their complete support of non-tactical vehicles, and we are just completing this year the complete consolidation of their non-tactical fleet into the interagency fleet.

Mr. DUNCAN. Well, you may not know the answer to this, but you did know that there are 300,000 other vehicles besides yours and not counting what the Postal Service and the Defense Department has.

Mr. BERES. That does include those numbers, sir.

Mr. DUNCAN. Oh, the other figure you gave me includes the Postal Service and the Defense Department?

Mr. BERES. Yes.

Mr. DUNCAN. So the Federal Government operates in total about 436,000 vehicles or somewhere in that vicinity?

Mr. BERES. Somewhere around 550,000, I would say.

Mr. DUNCAN. All right. Thank you very much.

Mr. BERES. Yes, sir.

Mr. TRAFICANT. Ms. Norton?

Ms. NORTON. Thank you, Mr. Chairman.

Would you describe how your revolving fund operates, please?

Mr. BERES. Yes. We essentially determine rates to be charged to the agencies when we lease them vehicles. It includes a monthly rate generally, and it also includes a mileage rate. We recover those funds from the agencies on monthly billings. They're to cover all of the expenses, including the acquisition of vehicles and the entire management of fleet, as well as all overhead costs associated with the management of our fleet. We also receive revenues from the sale of the vehicles, which go back into our fund to provide for the acquisition of new vehicles.

Ms. NORTON. You apparently have a goal of managing 3,700 alternative fuel vehicles by the summer of 1993. Do you expect to meet that goal?

Mr. BERES. Yes, ma'am. Either the vehicles are in place now, or orders that have been placed for deliveries expected in that time frame.

Ms. NORTON. Thank you very much, Mr. Chairman.

Mr. TRAFICANT. Mr. Beres, we want to commend GSA for their Alternative Fuel Program. Maybe there should be an award given to GSA. This subcommittee may also be looking at the total number of fleets and may believe that maybe we have too many fleets fleeting around. One of the ways that we can stop this fleeting is by maybe some cutting, and maybe it could be a recommendation that comes from GSA. I know Mr. Duncan feels very strong on that, and if we could just reduce the numbers that we have, it would certainly help us in other areas.

So I want to thank you for your summary and your forthright testimony as well. We appreciate your being here.

Mr. BERES. Thank you, Mr. Chairman.

Mr. TRAFICANT. With that, the hearing stands adjourned.

[Whereupon, at 11:05 a.m., the subcommittee proceeded to other business.]

PREPARED STATEMENTS SUBMITTED BY WITNESSES

WRITTEN STATEMENT OF ALLAN W. BERES
ASSISTANT COMMISSIONER
OFFICE OF TRANSPORTATION AND PROPERTY MANAGEMENT
GENERAL SERVICES ADMINISTRATION

BEFORE THE

HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS
FEBRUARY 23, 1993

Mr. Chairman, Members of the Subcommittee, I am pleased to appear before you today to present the views of the General Services Administration (GSA) on incorporating an alternative fuels policy into GSA's fleet management program.

GSA is aggressively undertaking, with the cooperation of the Department of Energy (DOE) and other Federal agencies, efforts to introduce alternative fuel vehicles into the Federal fleet. This is being done with the support of the Alternative Motor Fuels Act of 1988 (AMFA) (Public Law 100-494); the Clear Air Act Amendments of 1990 (CAAA) (Public Law 101-549); the Executive Order 12759 (EO) and the Energy Policy Act of 1992 (EPACT) (Public Law 102-486). To date, over 3,600 alternative fuel vehicles have been purchased by GSA.

The original legislation, AMFA, requires that a maximum number practicable of alternative fuel vehicles be purchased by Federal agencies. The legislation also requires, to the extent practicable, that vehicles capable of operating on alcohol and vehicles capable of operating on natural gas shall be acquired, and such vehicles shall be supplied by original equipment manufacturers (OEM).

GSA has acquired 3,687 alternative fuel vehicles under the auspices of AMFA and the EO. The vehicles are purchased by GSA's Automotive Commodity Center and are managed and operated by GSA's Interagency Fleet Management System (IFMS).

As background, GSA serves three major functions in the Federal motor vehicle arena. The Federal Supply Service (FSS) of GSA operates the Automotive Commodity Center. The Automotive Commodity Center is responsible for purchasing virtually all light duty vehicles (passenger cars and light trucks), as well as many of the medium and heavy duty trucks, buses, and other equipment, for the entire Federal community. The Office of Transportation and Property Management, also managed by the FSS, contains the other two operations directly affecting motor vehicles. The Fleet Management Division operates the IFMS, a fleet of 136,000 vehicles used throughout the country. The Fleet Management Division also provides Government-wide policy and assistance on specific fleet issues (i.e. fuel economy monitoring, vehicle replacement standards, vehicle identification, credit card issuance, and home-to-work vehicle usage). Finally, GSA's Property Management Division is responsible for disposing of most civilian agency vehicles once the vehicles are no longer needed or require replacement.

In the initial stages of introduction of alternative fuel vehicles into the Federal fleet, the Automotive Commodity Center and the IFMS have been the main GSA participants. We anticipate involvement with disposal beginning next year.

For a number of reasons the IFMS has played a particularly active role in providing technical advice and assistance on alternative fuel matters. First the IFMS, with 136,000 vehicles, is the third largest United States Government fleet operation (after the Department of Defense and the United States Postal Service). Another reason for our key role is GSA's active and ongoing involvement in the alternative fuels and environmental area. Since the early 1970's, GSA has implemented several alternative fuels programs. GSA's earlier efforts have met with mixed results. Our conclusions are summarized as Appendix A to this presentation.

Given this background, and the desire to undertake a viable alternative fuel vehicle program, GSA determined what was required for a successful alternative fuel program in the Federal sector. In making these recommendations, GSA evaluated how the current IFMS operates today and contemplated a variety of actions to introduce alternative fuel vehicles into that environment.

It is important to note that the IFMS provides vehicles to other Federal agencies to use. Less than two percent of the IFMS vehicles are actually driven by GSA employees. The balance are used by over 75 different Federal agencies or activities (including contractors). The IFMS uses commercial facilities around the country for maintenance, repair, and refueling. In this context, alternative fuel vehicles should be supported like conventional vehicles for use by our customers.

The IFMS is a full cost recovery operation under the Congressional Authority of the General Supply Fund. Expenses are recovered by motor vehicle rental rates charged to the using agencies and by revenues received from the sale of replaced vehicles. By recognizing that there will be increased costs associated with alternative fuel vehicles during the introduction stage, the AMFA provided an initial mechanism for the funding of alternative fuel vehicles. The incremental funds are appropriated to the DOE which then reallocates them to GSA and other agencies that purchase light duty vehicles. Our customer agencies pay only for the costs associated with a conventionally fueled vehicle.

AMFA is now just one part of the Federal program to acquire alternative fuel vehicles. The AMFA vehicles are closely monitored to study fuel consumption, emissions, and service records. Most of the vehicles now being acquired will go into general service in the Federal fleet, and will not be part of the controlled "AMFA Fleet." Current and future purchases are now and will be driven primarily by the CAAA, the EPACT and the EO.

The passage of AMFA provided GSA with an initial opportunity to participate in a modest alternative fuels program. GSA was the first agency to sign an Interagency Support Agreement with DOE to participate in the implementation of AMFA. AMFA helped GSA overcome many of the operational problems experienced in previous efforts. The most functional features of AMFA are the provision for additional funding to cover the incremental costs of an alternative fuel program, a separate section specifying the level of Federal participation, and the preference for OEM vehicles when acquiring units. These features have gone a long way to mitigate several of the problems faced in the "early" alternative fuels program.

The requirement in AMFA directing the Federal sector to acquire alternative fuel vehicles from OEM is particularly significant. Federal procurement of OEM vehicles has encouraged manufacturers to provide maintenance and repair support through their dealer networks. The government also can be assured that the vehicles meet all necessary specifications (i.e. safety standards, quality control, etc.). Finally, OEM involvement ensures broader support for the alternative fuels program from the refueling industry. This is crucial because we believe the program will ultimately succeed or fail based upon the ready availability of a full support network for fuel, maintenance, and service. Agency drivers, just as any other drivers, have to feel they have a reliable vehicle that, when necessary, will have ready access to both maintenance and repair support, as well as to fueling facilities.

With the specific mention of OEM in the Federal section, the 1988 law provided a sound basis for prudent, expedient contracting by reducing the likelihood of confusion in the bidding process and resultant bid protests. It also helps send a clear message to the vehicle manufacturers encouraging them to participate in the program.

In implementing the applicable portion of AMFA, GSA and DOE have worked very closely to help ensure program success. Cooperation has been evident at all levels of both organizations. This has allowed for a remarkably smooth introduction for most vehicles into the fleet. In addition, special thanks must go to the dedicated Federal agency drivers who have participated in this AMFA program.

As stated, through fiscal year 1992, GSA has procured 3,287 alternative fuel vehicles. The alternative fuel fleet is comprised of methanol flexible fuel compact and midsize sedans and 8-passenger vans; ethanol flexible fuel midsize sedans; and dedicated compressed natural gas (CNG) three-quarter ton pickup trucks and 8-passenger vans. Appendix B lists the summary of the alternative fuel vehicle procurements by vehicle type.

The first award issued under AMFA resulted in the purchase of 65 methanol flexible fueled sedans (40 Ford Tauruses and 25 Chevrolet Luminas). These vehicles, which are capable of operating on methanol (up to an 85 percent mixture), unleaded gasoline, or any combination of the two, were placed into operation in 1991 at Los Angeles, CA: San Diego, CA; Detroit, MI; and Washington, DC. The acquisition costs of the Ford Tauruses and the Chevrolet Luminas were $13,611 and $14,652 respectively.

Under a collateral agreement with the Chrysler Corporation, GSA also received two 1991 model year CNG 8 passenger vans. These vehicles, which are assigned to DOE and the White House Fleet, operate in the Washington, DC area.

The second round of procurements under the provisions of AMFA resulted in an award for 50 dedicated CNG 8 passenger vans. These 1992 model year Chrysler vans were placed into operation in 7 locations nationwide. The acquisition cost of the vans was $15,325.

The third round of procurements under the provisions of AMFA resulted in an award for 25 ethanol (E85) flexible fuel sedans. These 1992 General Motors vehicles are capable of operating on ethanol (up to an 85 percent mixture), unleaded gasoline, or any combination of the two. These sedans have been operating in the Chicago, IL area and Washington, DC since September 1992. The acquisition cost of the ethanol sedan was $14,822.

The fourth round of procurements of alternative fuel vehicles resulted in the purchase of 2,500 methanol flexible fueled sedans and 600 CNG three-quarter ton pickup trucks. The 1993 model year sedans, which are being produced by the Chrysler Corporation, began delivery in the fall. The majority of the sedans are expected in early 1993. The acquisition cost of the sedan is $8,530. The 1992 model year pickup trucks, which are produced by General Motors, were placed into operation in 53 locations nationwide during 1992. Under a separate contract, 25 Chrysler CNG eight-passenger vans were also purchased as an increased option to the previous van order. The acquisition cost of the pickup trucks was $16,911.

The fifth procurement added 20 methanol flexible fuel 8-passenger vans to the IFMS fleet. These Ford vehicles have been operating in Washington, DC and Denver, CO since late 1992. The acquisition cost of the vans was $14,253.

The locations of the vehicles were determined through a cooperative effort by GSA, DOE, and the automotive contractors supplying the vehicles. Factors affecting the decision were the quantity of vehicles, fuel and maintenance/repair infrastructures, usage patterns, data reporting requirements, and the manufacturers' dealer support networks. In addition, the 22 nonattainment areas, as identified by the CAAA, were primary areas of consideration for alternative fuel vehicle placement. Appendix C lists the alternative fuel vehicle locations and the number and type of alternative fuel vehicles at each location.

Building a refueling infrastructure has been a challenge to this alternative fuels program. GSA has concentrated its efforts towards the development of a commercial refueling infrastructure which could be used by all Federal and state fleets, private fleets and private individuals; instead of placement of refueling on government property which would have limited usefulness to other fleets. This action coincides with the requirements of the CAAA which stresses the use of commercial facilities.

When the AMFA program began, refueling nationwide was very limited. Commercial methanol refueling was available in the state of California as a result of that state's methanol program. Outside of California, commercial methanol refueling existed in Washington, DC and Detroit, Michigan only. Ethanol refueling was available primarily from state facilities. CNG refueling existed primarily at utility sites and private fleet operations with some limited commercial refueling sites.

Due to efforts from this program, many commercial refueling sites for all fuels have now been established. Commercial methanol refueling will now be available in Boston, MA; New York, NY; Philadelphia, PA; Baltimore, MD; Chicago, IL; Denver, CO; and Houston, TX. In addition, sites are being added to California and a new station has opened in Troy, MI. A commercial ethanol refueling station recently opened in Washington, DC. Commercial CNG refueling stations are opening in various locations nationwide. Also, numerous private facilities are now open to Federal fleet users. GSA has recently published the "Alternative Fuel Vehicle Directory" which lists refueling locations coast to coast. This directory will be made available to the Members of the Subcommittee.

The additional or incremental cost to introduce alternative fuel vehicles into the Federal fleet was significant. The incremental acquisition costs for the original 65 methanol sedans was over $6,000. This incremental acquisition cost was reduced to approximately $700 with the purcnase of the 2,500 methanol flexible fuel sedans.

Within a relatively short period of time, the GSA program has proceeded from initial acquisition of engineering demonstration vehicles under AMFA to that of a common production line option, placing GSA in the forefront of implementing environmentally safe technology in nationwide motor vehicle fleet operations. Work continues, however, to reduce the incremental acquisition cost of the CNG products which range from $3,975 for a 1992 CNG Chrysler 8-passenger van to $7,954 for a 1992 CNG General Motors pickup truck.

The introduction of a new technology is not without its challenges. Almost all of the new vehicle models and fuel types have experienced some type of operational and/or performance problems. Whether the problem has been faulty parts, contaminated fuels, pumping equipment and fuel incompatibility, limited range, compression capacity, etc. - problems have occurred that required manufacturer, maintenance and refueling support. The manufacturer and refueling industries are working to resolve these problems. The positive aspect of this experience is that these problems give the industries an opportunity to identify concerns and resolve the issues while improving their products.

Building on the experience gained in the initial implementation of AMFA, GSA is moving forward to implement the requirements of the CAAA, the EO and EPACT.
The CAAA will require the Federal fleet to introduce clean fuel vehicles beginning in 1996 for the state of California and 1998 for the rest of the nation. The CAAA, which will require these vehicles to operate in the 22 nonattainment areas as identified by the EPA, shows a preference for OEM vehicles. Current preliminary work on the CAAA implementation includes concentrating alternative fuel vehicles, when feasible, in the 22 nonattainment areas as identified by this legislation.

The EO, Federal Energy Management, promotes the Nation's energy security by expediting the use of alternative fuels. Section 10 requires agencies to develop a plan to reduce motor vehicle gasoline and diesel consumption by at least 10 percent by 1995 in comparison with fiscal year 1991. Credits for the use of alternative fuel vehicles will be allowed. The Administrator of GSA, in consultation with the Secretary of Energy, has issued appropriate guidance to assist agencies in meeting this goal.

Section 11 requires Federal agencies to acquire alternative fuel vehicles beginning in fiscal year 1993. DOE, who is responsible for implementing this section, has issued guidance to all Federal agencies to acquire 5,000 vehicles in FY 93, 7,500 vehicles in FY 94 and 10,000 vehicles in FY 95. It is anticipated that GSA will procure at least 50% of these vehicles for its IFMS in FY 93 and FY 94, on the assumption that funds to cover incremental acquisition and disposal costs are available and that vehicles are available from the OEM. DOE has funding of $7 million for FY 93 implementation.

In preparation for the implementation of the EO, the Automotive Commodity Center has made awards to the major manufacturers for the purchase of alternative fuel vehicles for FY 93. Ford Motor Company is offering methanol flexible fuel midsize sedans; the Chrysler Corporation is offering dedicated CNG 8-passenger and cargo vans; and General Motors Corporation is offering methanol and ethanol flexible fuel midsize sedans and CNG three-quarter ton pickup trucks. The IFMS regional offices are canvassing their customer agencies to determine vehicle requirements for placement. In addition, the regional office personnel are determining dealership and refueling infrastructure availability. On February 12, 1993, the IFMS ordered 300 Ford Taurus methanol flexible fuel sedans, 50 GM Lumina methanol flexible sedans and 50 GM Lumina ethanol flexible fuel sedans. It is anticipated that the remainder of the alternative fuel vehicles for the IFMS will be ordered by the end of February.

The EPACT, which was signed into law on October 24, 1992, requires the Federal fleet to purchase alternative fuel vehicles beginning in 1993 at the same requirement levels as the EO except in the outyears. GSA plays a major role in implementing this legislation with requirements for reporting to Congress, educating and offering incentives and awards to other Federal agencies, acquiring alternative fuel vehicles and promoting the program nationwide.

The impact of the EPACT on the Federal fleet is substantial. Title III of the Act requires the Federal fleet to purchase 5,000 alternative fuel vehicles beginning in 1993. This requirement for all light duty vehicles acquired is increased to 75% in FY 1999. It is anticipated that the IFMS will procure at least 50% of the FY 1993 requirements. Funding is available for FY 1993 through the EO.

GSA is responsible for reporting to Congress on the alternative fuels program. GSA is also tasked with establishing annual awards, measuring the use of alternative fuels, promoting programs and educating the Federal agencies on the alternative fuels program, and providing information, guidance and assistance to Federal agencies and States.

The EPACT, in addition, extends the initial AMFA program. DOE anticipates funding availability of $1 million for FY 93 to further the data collection process. It is estimated that GSA will receive enough funding to purchase 200 alternative fuel vehicles for this purpose. GSA is currently working with DOE to implement the data collection and emissions testing aspects of AMFA.

The EO and the EPACT will give GSA the opportunity to highlight the alternative fuels program nationwide. The IFMS will continue to introduce alternative fuel vehicles, develop the maintenance and refueling infrastructure, serve as a focal point to resolve operational problems with the vehicles, and education Federal agencies and other interested parties concerning the alternative fuels program.

The alternative fuels program must be carried out with a balanced, practical approach. As demonstrated, the GSA recognizes the importance of the alternative fuel program for both energy security and environmental concerns and thanks Congress for their foresight in passing the AMFA legislation.

Thank you, Mr. Chairman and Members of the Subcommittee for the opportunity to appear before the Subcommittee.

APPENDIX A
GSA'S ALTERNATIVE FUELS EXPERIENCE

In the early 1970's, GSA conducted a dual fuel fleet development program, Starting with 24 vehicles at the Sawtelle Veterans Hospital in Los Angeles and growing to over 1,400 vehicles by program end, GSA converted conventional powered vehicles to use alternative fuels such as compressed natural gas, liquified natural gas, or liquid propane. The vehicles had two fueling systems: a conventional gasoline system and a second for the alternative fuel (the exception to this was the liquid propane units which were dedicated vehicles). By pressing a switch, the operator could change from use of gasoline to the alternative fuel in that vehicle. Vehicle locations included: Chicago, Omaha, Philadelphia, Boston, Los Angeles, San Diego, San Francisco, Washington DC, Anchorage, Miami, Denver, and Yosemite National Park.

Various types of vehicles were converted, ranging from sedans and light trucks to buses and medium/heavy duty trucks. The objective of the program was to demonstrate the practicality of using these vehicles in fleet operations to reduce vehicular pollution. The anticipation was that the converted units would operate on gasoline in non-congested areas and on highways, while using only the alternative fuel in cities, national parks, and self-contained compounds.

The conversion work was performed in-house at Government facilities, along with most of the repair work. The converted vehicles were also fueled at the Government facilities.

During the project, the vehicles were tested and analyzed for emissions, effect on oil change intervals, maintenance costs, spark plug life, driveability, and driver acceptance. Special data collection forms were used, including driver log sheets.

Despite enthusiastic intentions, the program failed and was eventually abandoned after 1973.

The results that came out of the program were:

- o Refueling/operating range
    - Initially cost of alternative fuel was less than gasoline
    - Low cost natural gas, however, disappeared in late 1973 as a result of the Arab-Israeli War
    - Effective driving range was only 40-45 miles on the alternative fuel
    - Unless used in the immediate area of a refueling station, operators of the vehicles

tended to use gasoline 80-85% of the time
- The weight of the extra tanks contributed to more fuel usage than anticipated

- Maintenance/Operations
  - Emissions were reduced
  - Commercial garages were reluctant to work on the dual fuel vehicles
  - Cost of minor services reduced, i.e. oil changes, etc.
  - Savings in extended oil change interval partially offset by cost of oil quality testing conducted each month
  - First stage regulators had some reliability problems during the initial start-up
  - The number and size of the fuel tanks resulted in a significant reduction in available trunk space even in the full size sedans that were purchased at that time

- Operators/Agency Mission
  - Customer agencies complained that the vehicles were tethered to the refueling facility and that the vehicles could not perform the required missions without gasoline most of the time
  - Many of the agencies, once the initial usage period was over, operated the vehicles primarily on gasoline
  - Some agencies refused to accept the products at all

In summarizing the effort, the principal reasons that the program did not succeed include:

- The lack of a reasonably convenient fuel distribution network

- Driver reluctance to spend time driving to the limited refueling facilities available

- Limited driving range

- Difficulty in servicing the units since they were retrofits or conversions

- Lack of funding to install refueling stations and to purchase alternative fuel vehicles, facilities, and equipment (the program highlighted how expensive it was to undertake such an initiative, particularly with the need for establishment of fueling facilities)

GSA learned a great deal from this experimental program. For an alternative fuel program to succeed, the following criteria must be met:

- Vehicle performance, reliability, and durability have to be satisfactory
- Assurance is needed on the availability of repair parts and mechanic training
- Long term warranty needed on the emissions and fueling system
- Adequate and convenient fueling facilities
- Adequate driving range
- Adequate funding to cover all incremental costs and to offset losses in revenue from the sale of used Government vehicles

APPENDIX B

FY 91/92 Program Performance

Alternative Fuel Vehicle Procurement

MAKE	MODEL	FUEL TYPE	QUANTITY	COST
Chrysler (1993)	Compact Sedan	Methanol	2,500	$8,530
Chrysler (1992)	8-Passenger Van	CNG	75	$15,325
	8-Passenger Van	CNG	2	$11,350
General Motors (1992)	Midsize Sedan	Ethanol	25	$14,822
General Motors (1992)	3/4 Pick Up Truck	CNG	600	$16,911
Ford (1992)	8-Passenger Vans	Methanol	20	$14,253
Ford (1991)	Midsize	Methanol	40	$13,611
General Motors (1991)	Midsize	Methanol	25	$14,652
AFV Total			3,287	

ALTERNATIVE FUEL VEHICLE LOCATIONS

CITY	E85 SEDANS	M85 SEDANS	M85 VANS	CNG VANS	CNG PU TRUCKS
WASHINGTON, DC *	18	223	10	22	50
CHICAGO, IL *	6	200	-	5	21
DETROIT, MI	-	220	-	-	-
LOS ANGELES, CA *	-	386	-	-	30
SAN DIEGO, CA *	-	35	-	-	7
BOSTON, MA *	-	200	-	-	11
NEW YORK, NY *	-	200	-	5	31
PHILADELPHIA, PA *	-	200	-	-	5
DENVER, CO *	-	200	10	19	33
BALTIMORE, MD *	-	200	-	-	2
HOUSTON, TX *	-	200	-	3	30
BAKERSFIELD, CA *	-	-	-	22	49
NEW ORLEANS, LA	-	-	-	1	4
SAN FRANCISCO, CA	-	205	-	-	20
SACRAMENTO, CA *	-	80	-	-	17
FRESNO, CA *	-	16	-	-	10

* One of the 22 Non-Attainment Areas

ALTERNATIVE FUEL VEHICLE LOCATIONS

CITY	E85 SEDANS	M85 SEDANS	M85 VANS	CNG VANS	CNG P/U TRUCKS
ATLANTA, GA *	-	-	-	-	5
EL PASO, TX *	-	-	-	-	52
HARTFORD, CT *	-	-	-	-	5
TUCSON, AZ	-	-	-	-	10
ALBANY, NY	-	-	-	-	5
ALBUQUERQUE, NM	-	-	-	-	18
AMARILLO, TX	-	-	-	-	37
AUGUSTA, GA	-	-	-	-	40
AUSTIN, TX	-	-	-	-	3
BILLINGS, MT	-	-	-	-	2
BUFFALO, NY	-	-	-	-	1
CASPER, WY	-	-	-	-	1
CHARLESTON, WV	-	-	-	-	1
FARMINGTON, NM	-	-	-	-	2
COLUMBUS, OH	-	-	-	-	2
GALVESTON, TX	-	-	-	-	2
JACKSONVILLE, FL	-	-	-	-	1
TAMPA, FL	-	-	-	-	1

* One of the 22 Non-Attianment Areas 66 305 136

LTERNATIVE FUEL VEHICLE LOCATIONS

CITY	E85 SEDANS	M85 SEDANS	M85 VANS	CNG VANS	CNG P/U TRUCKS
LUBBOCK, TX	-	-	-	-	1
LAS VEGAS, NV	-	-	-	-	3
McALLEN, TX	-	-	-	-	1
MIAMI, FL	-	-	-	-	1
MINNEAPOLIS, MN	-	-	-	-	4
NEW CUMBERLAND, PA	-	-	-	-	6
OKLAHOMA CITY, OK	-	-	-	-	3
PHOENIX, AZ	-	-	-	-	10
PITTSBURGH, PA	-	-	-	-	5
RENO, NV	-	-	-	-	2
RESEARCH TRIANGLE, NC	-	-	-	-	1
SALT LAKE CITY, UT	-	-	-	-	12
SAN ANTONIO, TX	-	-	-	-	1
SANTA FE, NM	-	-	-	-	4
SOCORRO, NM	-	-	-	-	1
SEATTLE, WA	-	-	-	-	7
VANCOVER, WA	-	-	-	-	5
SYRACUSE, NY	-	-	-	-	2
WEST POINT, NY	-	-	-	-	12
HUNTINGTON, WV	-	-	-	-	6
GETTYSBURG, PA	-	-	-	-	5

66 305 137

Society of Critical Care Medicine

TESTIMONY OF JOHN W. HOYT, M.D., F.C.C.M. ON BEHALF OF THE SOCIETY OF CRITICAL CARE MEDICINE

BEFORE THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS

Banning Smoking in Federal and Congressional Buildings

February 23, 1993

Mr. Chairman and Members of the Subcommittee, I am John Hoyt, M.D., F.C.C.M., Chairman of the Critical Care Medicine Department and Medical Director of the Medical/Surgical Intensive Care Unit ("ICU") at St. Francis General Hospital in Pittsburgh, Pennsylvania. St. Francis General Hospital is a 750-bed, full-service facility that has been providing care to patients in Pittsburgh for 125 years. I am also a clinical professor of anesthesiology at the University of Pittsburgh, part of the largest fellowship training program of critical care in the world.

I am an "intensivist," which means that my medical practice is located entirely in the Intensive Care Unit. I provide life support such as mechanical ventilation, dialysis, and hemodynamic support to patients with critical illnesses who are at risk of dying. Many of the patients who I and other intensivists throughout the country treat suffer from conditions such as heart attacks, strokes, and pulmonary diseases, all of which are associated with prolonged tobacco usage.

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My testimony today is presented as Treasurer of the Society of Critical Care Medicine, an organization comprised of more than 7,000 physicians, nurses, pharmacists, respiratory therapists and other allied health care providers who are committed to the care of the approximately 4-6 million individuals who become critically ill or injured each year in the United States. Members of the Society are unfortunately all too well aware of the significant health care consequences of prolonged smoking.

As an intensivist, I see on an almost daily basis the medical damage that years of smoking inflicts upon patients. For example, just a few days ago, I cared for a patient, Mr. M, a 52-year-old white male who presented to the Emergency Department at St. Francis Medical Center complaining of shortness of breath. He claimed to have been feeling poorly for a week and thought he had the flu. His wife noted that he had lost about 25 pounds of weight in the last six months and that he had a very wasted appearance. Neither he nor his wife had considered that his problems might be related to smoking.

A chest x-ray on Mr. M showed a process involving the entire right upper lobe of the lung. He was struggling to breath and getting inadequate oxygen even on supplemental face mask oxygen. Mr. M has smoked one pack of cigarettes per day for 30 years. He is in acute respiratory failure with pneumonia and probably lung cancer and will need to be on a ventilator to prevent his imminent death. A few days in the ICU on life support will allow enough time to make a clear diagnosis and develop a treatment plan. The preliminary diagnosis is that Mr. M has a 95% probability of dying in one year. Mr. M's few days in the ICU will cost somewhere in the neighborhood of $50,000, and he will probably spend his last year of life in and out of the ICU on mechanical ventilation.

A day in the ICU costs three to four times more than a day in the general hospital ward. A day receiving breathing assistance from a respirator, common to patients suffering from tobacco-related emphysema, is estimated to be eight times more costly than a routine hospital day.

Smoking, both direct and passive, causes heart and lung disease. As a result, many U.S. citizens who are exposed to tobacco smoke develop acute (such as Mr. M) and chronic illnesses that result in debilitating disease that lead to hospitalization, admission to the intensive care unit and use of life support, and finally to death.

Smoking causes heart and peripheral vascular disease. It leads to hardening and occlusion of blood vessels needed to supply blood to the body. Specifically, tobacco smoke causes narrowing and occlusion of the arteries of the heart that supply blood to the heart muscle, causing chest pain, heart attacks, and death. A health care industry composed of cardiologists, cardiac surgeons, and intensivists providing cardiac catheterizations, angioplasties, and coronary artery bypass grafts has grown up around caring for patients with coronary artery disease, a major and predominate cause of which is tobacco smoking.

The lungs are also negatively affected by tobacco smoke. First, as in the Mr. M's case, smoking causes lung cancer. This has been known for many years and is often viewed as the worst risk and most dangerous consequence of smoking. In fact, the development of emphysema and chronic obstructive pulmonary disease, is as equally debilitating and damaging to the lung. The lung has a delicate architecture of tubes and sacs needed to permit gas exchange and oxygen delivery. Smoking leads to damage of these tubes and sacs that obstruct the flow of oxygen into the lung. This form of lung damage causes years of inadequate lung function, shortness of breath, limited exercise ability, and finally death from respiratory failure. One of the leading causes of admission to medical Intensive Care Units across the country is respiratory failure from chronic obstructive lung disease.

While difficult to believe, it has been over a quarter of a century since the Surgeon General first reported that cigarette smoking is hazardous to one's health. And, in every Surgeon General's annual report since 1964, the Surgeon General has identified cigarette smoking as the single most important source of premature mortality among Americans. The Centers for Disease Control and Prevention ("CDC") concluded in 1989 that cigarette smoking can legitimately be termed the most "devastating preventable cause of disease and premature death this country has ever experienced." The CDC estimates that each year smoking kills nearly 400,000 Americans--115,000 from coronary heart disease, 27,000 from stroke, 136,000 from cancer, 60,000 from chronic obstructive pulmonary disease and an estimated 50,000 from other related illnesses. Startling as it may seem, every two months, more Americans are killed by tobacco smoke than were killed in the entire Vietnam War. Nevertheless, with all the information depicting the dangers of smoking, it is estimated that currently 51 million people are regular smokers.

Heart disease is the leading cause of death in the United States, and one-fifth of these deaths are directly related to cigarette smoking. Smokers increase their risk of heart disease by nearly twofold compared to nonsmokers and smokers between the ages of 45 and 64 are three times more likely than nonsmokers to suffer from heart disease.

Cancer is the second leading cause of death in the U.S. Ninety percent of lung cancer deaths are caused by smoking, and 30% of all cancer deaths are a result of smoking. The CDC also attributes nearly 20% of cerebrovascular disease or stroke to cigarettes, while 80% of pulmonary deaths are related to smoking.

Not only does cigarette smoking account for hundreds of thousands of deaths each year, but cigarette smoking costs this country billions of dollars in health care costs. The CDC estimates that the U.S. spends $22 billion dollars annually on medical costs related to smoking. The Medicare and Medicaid programs alone pay out at least $4.2 billion annually to care for those who are ill from cigarette related disease. At a time when spiraling medical costs are at the forefront of American politics, it is clear that we cannot afford to spend money on care that could be avoided by the elimination of cigarette smoking.

Equally alarming as the previous statistics, is the hazardous effects of cigarette smoke on nonsmokers. In January, the Environmental Protection Agency ("EPA") released a major report entitled "Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders." The report clearly supports the theory that passive smoke significantly affects nonsmokers who live or work with smokers. Just as smokers absorb nicotine, carbon monoxide and other constituents of tobacco smoke, smoke from someone else's cigarettes, although in smaller amounts, is absorbed into the body of exposed nonsmokers as well. The evidence suggests that the smoke emitted from a smoldering cigarette contains the same carcinogenic compounds identified in the smoke inhaled by the smoker. The EPA concluded in the report that widespread exposure to environmental tobacco smoke in the U.S. presents a serious and substantial public health risk for adults and children.

Further, the EPA report stated that in adults, environmental tobacco smoke is a human carcinogen responsible for approximately 3,000 lung cancer deaths each year in nonsmokers in the U.S. In children, environmental tobacco smoke increases the risk of lower respiratory tract infections including bronchitis and pneumonia, resulting in hospitalization for between 7,500 and 15,000 infants and children annually. Environmental tobacco smoke exposure also increases the prevalence of middle ear disease and increases the frequency and severity of symptoms in asthmatic children. The report asserts that 200,000 to 1 million asthmatic children have their condition worsened by exposure to environmental tobacco smoke.

On January 7, 1992, William K. Reilly, former Administrator of the EPA, along with former Secretary of Health and Human Services, Louis Sullivan, testified before Congress on the findings of the EPA report on the health risks of breathing environmental tobacco smoke. Reilly concluded in his testimony that environmental tobacco smoke may present the most important environmental health risk facing Americans today. The Society of Critical Care Medicine wholeheartedly agrees with Mr. Reilly's statement on the seriousness of environmental tobacco smoke. Unfortunately, the "common courtesy" approach to eliminating passive smoke has not been effective. The Journal of the American Medical Association reported in April 1990 that this common courtesy approach endorsed by the tobacco industry is unlikely, by itself, to eliminate exposure to environmental tobacco smoke. The JAMA study concluded that legislative or administrative measures are the only effective strategies to eliminate passive smoking.

The Society agrees with the views expressed in JAMA. One step toward solving the problem of environmental tobacco smoke is through strict legislative measures. While Congress cannot police homes or private organizations and institutions, Congress can set stringent regulations concerning smoking in federal buildings, in Congressional offices, and in the Capitol. Mr. Chairman, the Society supports your bill, H.R. 881, which would establish a complete ban on smoking in all federal buildings, including Congressional buildings. We understand that currently federal agencies restrict smoking in public areas, but smoking is still allowed in private offices and designated smoking areas. Given the documented problems concerning both active and passive smoking and the experience of members of the Society in treating patients for conditions created by smoking, we believe that the Congress must take a leadership role on this issue by prohibiting smoking in federal and Congressional buildings. The Society urges the Subcommittee to speedily set policy guidelines to this effect.

Mr. Chairman, thank you for the opportunity to present the Society's views at this time, and we look forward to continuing to work with Congress and Members of the Subcommittee to eliminate this significant threat to our lives and our children's lives. I will be happy to answer any questions you or the Subcommittee may have.

John W. Hoyt, M.D., F.C.C.M.

After receiving his B.S. from Baldwin Wallace College, Dr. Hoyt went on to receive his M.D. from the University of Cincinnati. He then did a one year medical internship at the Good Samaritan Hospital in Cincinnati, Ohio. From 1972 - 1974 Dr. Hoyt completed his residency in Anesthesiology at the Naval Regional Medical Center in Portsmouth, Virginia. His fellowship in Critical Care Medicine was completed at the University of Pittsburgh and at the Naval Regional Medical Center in July, 1975. Dr. Hoyt is certified by the American Board of Anesthesiology and has a certificate of Special Qualification in Critical Care from the American Board of Anesthesiology. Currently Dr. Hoyt is Chairman of the Department of Critical Care Medicine at St. Francis Medical Center in Pittsburgh, Pennsylvania and is Clinical Professor of Anesthesiology and Critical Care Medicine at the University of Pittsburgh.

STATEMENT OF

DR. PATRICIA F. KINNEY
ACTING DIRECTOR
OFFICE OF CHILD CARE AND DEVELOPMENT PROGRAMS
GENERAL SERVICES ADMINISTRATION

BEFORE THE
SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS,
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

FEBRUARY 23, 1993

GOOD MORNING MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. THE GENERAL SERVICES ADMINISTRATION APPRECIATES THE OPPORTUNITY TO APPEAR BEFORE YOU REGARDING GSA'S CHILD CARE PROGRAM. MY NAME IS DR. PATRICIA KINNEY. I AM THE ACTING DIRECTOR OF THE OFFICE OF CHILD CARE AND DEVELOPMENT PROGRAMS. BEFORE COMING TO GSA 3 YEARS AGO I WAS THE DIRECTOR OF THE EARLY CHILDHOOD FIELD PROJECT AT THE UNIVERSITY OF MARYLAND WHERE I TAUGHT GRADUATE AND UNDERGRADUATE COURSES AND CONDUCTED RESEARCH ON INFANT CHILD CARE. I HAVE PROVIDED CONSULTATION TO PRIVATE AND PUBLIC ORGANIZATIONS ON CHILD CARE FOR THE PAST 20 YEARS.

GSA'S OFFICE OF CHILD CARE AND DEVELOPMENT PROGRAMS (OCCDP) WAS ESTABLISHED 3 YEARS AGO TO ASSURE THAT FEDERAL FAMILIES WOULD RECEIVE QUALITY CHILD CARE. THE OFFICE WORKS COLLABORATIVELY WITH REGIONAL CHILD CARE COORDINATORS IN EACH OF GSA'S 10 REGIONS TO PROVIDE CONSULTATION, GUIDANCE AND TECHNICAL ASSISTANCE TO OUR CLIENT AGENCIES. COORDINATORS ASSIST CLIENTS WITH THE INITIAL ESTABLISHMENT OF CHILD CARE CENTERS AND SUBSEQUENTLY SERVE AS A RESOURCE THROUGH THE ONGOING OPERATION OF THE CENTER. COORDINATORS ALSO ASSURE CENTERS ARE IN COMPLIANCE WITH THE TERMS OF GSA'S LICENSING AGREEMENTS. COMPLIANCE WITH THE SPECIAL CONDITIONS IN OUR LICENSING AGREEMENTS ASSURES US THE CENTERS ARE FINANCIALLY VIABLE AND PROGRAMMATICALLY SOUND.

TODAY THERE ARE 91 CHILD CARE CENTERS OPERATING IN GSA-CONTROLLED SPACE. THE TOTAL LICENSED CAPACITY IS FOR 6,737 CHILDREN. CURRENT ENROLLMENT FIGURES SHOW THAT 67% OF THE CHILDREN ARE FROM FEDERAL FAMILIES WITH REMAINING SPACES ENROLLED WITH CHILDREN FROM NON-FEDERAL FAMILIES. TWICE A YEAR GSA COLLECTS DATA REGARDING CENTER OPERATIONS AND COMPILES A STATISTICAL PROFILE. A COPY OF OUR MOST RECENT PROFILE AND A LIST OF CENTERS IN GSA SPACE IS ATTACHED FOR THE RECORD.

DURING THE PERIOD FY'92-FY'93 GSA HAS COMPLETED OR WILL COMPLETE EXPANSIONS IN 19 OF THE CENTERS. IN TERMS OF NEW CONSTRUCTION, 6 ADDITIONAL CENTERS WILL BE COMPLETED IN FY'93 AND WE EXPECT APPROXIMATELY 28 NEW CENTERS WILL BE ADDED FROM FY'94-FY'95. INTEREST FROM FEDERAL AGENCIES CONTINUES AT A STEADY PACE.

DURING THE PAST 3 YEARS, SITE VISITS HAVE BEEN MADE TO ALL OF GSA'S 10 REGIONS TO ASSESS WEAKNESSES AND STRENGTHS IN THE SYSTEM. AT THE SAME TIME, MEETINGS WERE HELD WITH ORGANIZING COMMITTEES DURING THE PLANNING STAGES OF NEW CENTER DEVELOPMENT.

THE FEEDBACK GSA RECEIVED DURING SITE VISITS RESULTED IN OUR DEVELOPMENT OF WRITTEN PUBLICATIONS AND TRAINING OPPORTUNITIES FOR ALL THOSE INVOLVED IN THE DELIVERY OF CHILD CARE FOR FEDERAL FAMILIES. BASED ON OUR INFORMATION, WE BEGAN A CAMPAIGN FOR QUALITY THROUGH AN INITIATIVE WE CALL **SHAPE**. THE ACRONYM INCLUDES KEY ELEMENTS WHICH PERTAIN TO THE DELIVERY OF QUALITY CARE: **S**-ALARIES AND BENEFITS; **H**-EALTH AND SAFETY; **A**-CCREDITATION; **P**-PARTNERSHIPS; AND **E**-QUITY.

OUR EFFORTS TO PROVIDE TRAINING, CONSULTATION AND GUIDANCE HAVE HAD AS THEIR FRAMEWORK THE **SHAPE** INITIATIVE. I WOULD LIKE TO BRIEFLY DESCRIBE SOME PROJECTS WHICH IMPLEMENT OUR MISSION:

1. GSA CONVENES QUARTERLY MEETINGS OF THE INTERAGENCY TASK FORCE ON CHILD CARE. THE TASK FORCE IS AN INTERACTIVE ORGANIZATION WHICH HELPS DEFINE PROBLEMS AND STRENGTHS IN THE SYSTEM, SHARES KNOWLEDGE AMONGST THE AGENCIES AND RECEIVES INFORMATION ABOUT CURRENT POLICIES, PRACTICES AND TRENDS.

2. GSA CONVENES AN ANNUAL CHILD CARE CONFERENCE FOR A DIVERSE RANGE OF PARTICIPANTS INCLUDING FEDERAL AGENCY

REPRESENTATIVES, BUILDINGS MANAGERS, GOVERNING BOARDS AND CENTER STAFF. THE FOURTH ANNUAL CONFERENCE WILL BE HELD IN PORTLAND, OREGON MAY 26-28, 1993.

3. GSA HAS DEVELOPED WRITTEN RESOURCES SUCH AS THE FUNDRAISING GUIDE; WE ARE IN THE FINAL STAGES OF COMPLETING A FACILITY DESIGN GUIDE AND A MINI-CENTER DESIGN GUIDE.

4. GSA HAS HELD TRAINING EVENTS FOR OUR CLIENT AGENCIES AND CENTER ADMINISTRATORS TO ENCOURAGE FUNDRAISING EFFORTS FOR TUITION ASSISTANCE AND PROVIDE KNOWLEDGE ABOUT GOVERNANCE ISSUES.

DURING THIS PAST YEAR, A MAJOR EFFORT HAS BEEN MADE BY GSA TO ASSURE THAT CHILD CARE CENTERS ARE SAFE AND HEALTHY ENVIRONMENTS FOR YOUNG CHILDREN. REGIONAL CHILD CARE COORDINATORS HAVE ASSESSED EACH FACILITY AND HAVE IDENTIFIED AREAS REQUIRING IMPROVEMENTS. THESE EFFORTS TO STRENGTHEN THE CHILD CARE PROGRAM, MAKE IMPROVEMENTS AND DEVELOP RESOURCES ARE ONGOING.

NEXT, I WOULD LIKE TO TAKE A FEW MOMENTS TO ADDRESS THE ISSUE OF FINANCING THE CENTERS' OPERATIONAL BUDGETS.

IT IS A COMMON MISCONCEPTION THAT FEDERAL FUNDS SUBSIDIZE THE OPERATING BUDGETS OF CHILD CARE CENTERS FOR FEDERAL FAMILIES. TO THE CONTRARY, THE OPERATING BUDGETS WHICH REPRESENT STAFF SALARIES AND BENEFITS, FOOD, INSURANCE AND CURRICULUM AND OTHER CONSUMABLE MATERIALS, ARE PAID THROUGH USER FEES FROM PARENTS IN THE FORM OF TUITION. OTHER COSTS FOR RENT, EQUIPMENT AND UTILITIES ARE PAID FOR BY THE FEDERAL GOVERNMENT. TUITION COSTS VARY BOTH BETWEEN AND WITHIN GSA REGIONS. IN SOME CASES, TUITION COSTS ARE SUBSIDIZED FOR LOWER GRADED EMPLOYEES THROUGH THE FUNDRAISING EFFORTS OF PARENTS AND THE FEDERAL COMMUNITY. THIS INCLUDES FUNDS

FROM THE COMBINED FEDERAL CAMPAIGN AS WELL AS INDIVIDUAL FUNDRAISING PROJECTS.

IN CLOSING, I CAN REPORT THAT CHILD CARE CENTERS LOCATED IN GSA CONTROLLED SPACE ARE MOVING TOWARD A BETTER LEVEL OF QUALITY THAN BEFORE. PROVIDERS AND PARENTS APPEAR COMMITTED TO WORK TOWARD QUALITY BY ACHIEVING ACCREDITATION. GSA HAS PROMOTED NATIONAL ACCREDITATION TO RAISE THE DELIVERY OF SERVICES ACROSS SEVERAL PROGRAM DOMAINS. WE HAVE WITNESSED A REDUCTION IN STAFF TURNOVER IN THESE CENTERS BY APPROXIMATELY 16% OVER THE PAST 3 YEARS AND WE HAVE OBSERVED THAT BETTER QUALITY PROVIDERS ARE COMING INTO THE SYSTEM.

GSA IS EXPERIENCING CONTINUED INTEREST FROM SEVERAL FEDERAL AGENCIES INCLUDING THE ADMINISTRATIVE OFFICE OF THE COURTS, GSA'S NEWEST CLIENT FOR CHILD CARE.

AS THESE DEVELOPMENTS EVOLVE, GSA WILL CONTINUE ITS COMMITMENT TO QUALITY BY ADDRESSING ALL 3 INTERCONNECTED COMPONENTS OF CHILD CARE: FACILITIES, PROGRAMS AND MANAGEMENT.

MR. CHAIRMAN, GSA LOOKS FORWARD TO THE COMMITTEE'S SUPPORT OF CHILD CARE FOR FEDERAL FAMILIES. I WOULD BE HAPPY TO ANSWER ANY QUESTIONS YOU OR OTHER MEMBERS OF THE SUBCOMMITTEE MAY HAVE.

Office of Child Care and Development Programs

Profile of Child Care Centers Located in GSA Space

DECEMBER 1992

U.S. General Services Administration

PURPOSE

Information from each child care center located in GSA-controlled space has been collected on a semi-annual basis to develop a comprehensive data base. The results of these studies provide GSA and the client agencies with an updated analysis of center operations. Results are also used for legislative briefings and to provide policy makers with accurate information about GSA's child care initiative. Data was collected in five major areas: center characteristics, accreditation status, management characteristics, financial information, and staffing.

DATA COLLECTION

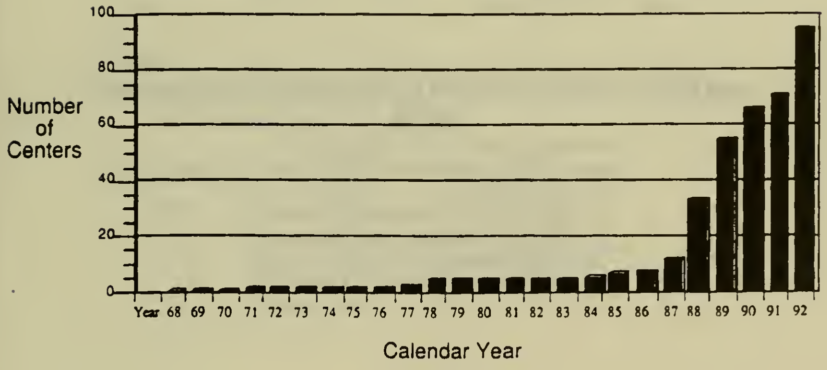
Surveys were mailed to each center in GSA controlled space in November, 1992, for return the following month. Requests specified that center directors, board presidents, and vendors jointly provide the information. Numbers in brackets reflect the number of centers responding to each item if fewer than 84.

FINDINGS

Center Growth

Number of Centers

Ninety-one centers currently exist in GSA space. The greatest rate of growth occurred with the passage of Title 40 of the United States Code, Section 490(b).



Center Characteristics

Size

The average center accommodates 62 full time children.

Total Licensed Capacity= 6,737
Range = 12-160 Average= 73

Total Enrollment= 5,598
Range = 5-150 Average= 62

Federal Enrollment= 3,779
Non-Federal Enrollment= 1,819

Number of classrooms range from 1 to 9.
Most centers have 4 or 5 classrooms.

Total Wait List= 3,664
Range= 0-179 [83] Average= 44 (mostly for infant care)

Waiting lists exist in 86% of the centers.
Waiting lists can sometimes be misleading since parents may place children's names on the list and later choose another center or another form of care. In cities which have more than one center, parents may place children's names on more than one list.

Centers with enrollments of five or more openings below the licensed capacity= 62%
Centers with expansion plans= 31%

AVERAGE NUMBER OF CHILDREN IN THE CENTER FROM EACH AGE GROUP

AGES	AVERAGE
0-12 Months	10
13-24 Months	12
25-36 Months	15
37-60 Months	29
Over 60 Months	21

Ages

Full time care: 1 month-5 years
Centers serving infants under 12 months: 80%
Centers serving at least one special needs child: 35%
31% of the centers have undergone structural modifications to accommodate special needs children.

Licensing

94% are State or local licensed
6% are not licensed.

Licensing visits average once per year.

Single-Parent Children

Average number of children from single-parent families served in a center = 12

Demographics

Ethnicity			
Children		**Staff**	
Black	28%	Black	37%
Asian	4%	Asian	3%
Hispanic	4%	Hispanic	7%
American Native	1%	American Native	1%
White	63%	White	52%

Hours

Range = 5-20 hours per day
Most centers are open 11 hours per day.

Programs Offered

58%	Drop-in/Emergency Care
13%	Before/After School Program
30%	Summer Program for School Aged Children
2%	Moderately Sick Child Care
2%	Overnight Care

Facility

Average Indoor Space= 5,989 sq. ft. [83]
Average Outdoor Space= 5,318 sq. ft. [72]
Playground adjacent to the center= 92%
Common indoor area for large groups= 61%
Cleaning is daily in every case.
Carpet cleaning: Average of 5 times per year

NAEYC Accreditation

Nine centers are currently accredited.
53% are currently in the self-study process.
11% have completed the self-study and are waiting for the validator's visit.

Management Models

Provider operated = 60%
Board Operated= 39%
Direct Procurement= 1%
Boards of Directors:
  Size Range= 2-20; the average board has 9 members. [82]
  Most boards meet on a monthly basis. [80]
  Boards with written policies defining members' roles = 85% [82]
  Boards with liability insurance= 47% [81]

Financial Data

Tuition

Average Tuition Per Week

	Infants	Toddlers	Pre-School	Before/After
Federal	$117.00	$106.00	$90.00	$86.00
Non-Federal	$125.00	$112.00	$94.00	$86.00

Tuition ranges:

Infants	Toddlers	Preschool	Before/After
$57-200	$57-176	$50-204	$35-152

37 centers have a differential tuition rate for non-Federal families which is an increase in the number over the last six months.

Services included in tuition:

64% Breakfast
63% Morning snack
82% Lunch
93% Afternoon snack
6% Diapers

Tuition Assistance

80% of the centers offer tuition assistance.
58% of the centers receive CFC funds. Range= $1,000-30,000/year. [81]
Operating budgets range from $45,000-$725,976 per year. [74]

Staffing

Centers which employ staff member(s) with disabilities= 13%

Director Experience

71% have 5 or more years administrative experience; 61% have 10 or more years of early childhood education experience.

Staff Turnover

Average number who left center in the twelve month period= 4; range= 0-12
Annual turnover rate average= 27%
The turnover rate has decreased 16% in the past 2 years.

Benefits Provided:

Paid Vacation	93% of centers; the average number of paid vacation days is 9 per year
Paid Sick Leave	81% of centers; the average number of sick days earned is 7 per year [82]
Health Insurance	88% of centers; the average employer contribution toward the health premium is 61%; range= 7%-100%

Annual Staff Salaries

Average	Range	
Director Salary [78]	$14,400-$45,000	$27,782
Lead Teacher Salaries	$10,435-$27,000	$17,315
Degreed Beginning Teacher Salaries	$9,392-$20,870	$15,344

91% of centers reported pay increases during the past year.
Teachers' salaries increased an average of 5%.

AVERAGE DIRECTOR SALARY BY REGION

Region 1-2= $28,768
Region 3= $25,740
Region 4= $31,720
Region 5= $23,558
Region 6= $20,800
Region 7= $26,808
Region 8= $22,667
Region 9= $28,243
Region 10= $25,050
NCR= $33,491

Training

Average training per year= 19 hours per staff member

February 19, 1993

UNITED STATES GENERAL SERVICES ADMINISTRATION OFFICE OF CHILD CARE AND DEVELOPMENT PROGRAMS

REGIONAL CHILD CARE COORDINATORS AND CHILD CARE CENTERS OPERATING IN GSA SPACE

REGION 1&2 COORDINATOR:
Eileen Stern
26 Federal Plaza
New York, NY 10278
212/264-3300

IRS Service Center 508/474-5431
310 Lowell Street
Stop 237
Andover, MA 01810
Center Name: ANSC Childcare Corporation

JFK Federal Building 617/742-5171
Room G-54
Boston, MA 02203
Center Name: Government Child Care Center Corporation

Thomas P. O'Neill Federal Building 617/523-8118
10 Causeway Street
Boston, MA 02222
Center Name: Government Child Care Center Corporation

IRS Service Center 203/525-8798
135 High Street
Hartford, CT 06103
Center Name: Federal Child Care Center

Waltham Federal Center 617/647-7763
Army Corps of Engineers
424 Trapelo Road
Building 110
Waltham, MA 02254-9149
Center Name: Bright Horizons

Kenneth B. Keating Federal Building 716/546-7070
and Courthouse
100 State Street
Rochester, NY 14614
Center Name: First Steps Child Care, Inc.

James M. Hanley Federal Building 315/423-9165
100 South Clinton Street
Room 169
Post Office Box 7196
Syracuse, NY 13260
Center Name: Clinton Street Day Care Center

Jacob K. Javits Federal Building 212/264-4277
26 Federal Plaza
New York, NY 10278
Center Name: Fed Kids Child Care Center

Leo W. O'Brien Federal Building 518/472-4593
1 Clinton Plaza, B-38
Albany, NY 12207
Center Name: Club Federal Child Care Center

Peter W. Rodino, Jr. Federal Building 201/645-0646
Room 107
970 Broad Street
Newark, NJ 07102
Center Name: Newark Federal Kids-Care, Inc.

REGION 3 COORDINATOR: Jill Lehman
Wannamaker Building
3 PMFS
100 Penn Square East
Room 720
Philadelphia, PA 19107-3396
215/656-5994

Veterans Administration Federal Building 215/951-5554
P.O. Box 13399 VAROIC
Philadelphia, PA 19101
Center Name: Academy for Early Learning Center

William F. Greene Federal Building 215/627-1081
600 Arch Street
Room 1211
Philadelphia, PA 19106
Center Name: The Learning Tree Child Care Center Independence Mall

William F. Moorhead Federal Building 412/281-1330
1000 Liberty Avenue
Pittsburgh, PA 15222
Center Name: Wee The People Day Care Center, Inc.

Roosevelt Federal Building 215/969-2144
11501 Roosevelt Boulevard
DP 701
Philadelphia, PA 19154
Center Name: Sound Start/UpStart Corp.

Fallon Federal Building 401/727-1785
200 West Lombard Street
Suite A
Baltimore, MD 21201
Center Name: Fallon Federal YWCA Child Care Center

IRS Service Center 304/264-7132
P.O. Box 1208
Martinsburg, WV 25401
Center Name: Little Eagle Child Care Center

Social Security Administration 410/966-0401
300 Greene Street
1-P-9 South
Baltimore, Maryland 21201
Center Name: Social Secure-A-Kiddie Child Care Center-Metro West

Social Security Administration 410/965-3232
2B2 Operations Building
6401 Security Boulevard
Baltimore, MD 21235
Center Name: Social Secure-A-Kiddie/Woodlawn

REGION 4 COORDINATOR: Brenda Rice
Suite 2800
4AC
401 West Peachtree Street, NW
Atlanta, GA 30365
404/331-1850

Strom Thurmond Federal Building 803/779-7200
1835 Assembly Street, Room 113
Columbia, SC 29201
Center Name: Adlerian Child Care Center

IRS Service Center 606/292-3280
203 West 2nd Street
Covington, Kentucky 41011
Center Name: The Treasure House

Peachtree Summit 404/331-1600
401 West Peachtree Street, NE
Box 26
Atlanta, GA 30308
Center Name: Summit Child Care Center

Federal Building 502/582-6646
600 Martin Luther King, Jr. Place
Louisville, KY 40202
Center Name: Uncle Sam's Place

IRS Service Center 404/451-3488
2355 Chamblee Tucker Road
Chamblee, GA 30341
Center Name: Shadyland Childcare Center

McKoy Federal Building 601/965-4999
100 West Capitol Street
Jackson, MS 39269
Center Name: The Little Acorns Child Development Center

200 Healy Building 404/331-7518
57 Forsythe Street, NW
Atlanta, GA 30303
Center Name: The Downtown Child Development Center

REGION 5

COORDINATOR: Liz Themelis
A.J. Celebrezze Federal Building
Room 769
1240 East 9th Street
Cleveland, OH 44199
216/522-4963

Battle Creek Federal Center 616/963-5598
100 North Washington Street
Battle Creek, MI 49017
Center Name: The Little White House Child Care Center

PV McNamara Federal Building 313/226-4999
477 Michigan Avenue
Number 110
Detroit, MI 48226
Center Name: Bright Horizons

Whipple Federal Building 612/726-1046
1 Federal Drive
Room G-25
Ft. Snelling, MN 55111-4007
Center Name: New Horizons Childcare

Customs House 312/353-8687
610 S. Canal Street
Chicago, IL 60607
Center Name: CCC Learning Center

Minton - Capehart Federal Building 317/226-5487
575 N. Pennsylvania Street
Indianapolis, IN 46204
Center Name: Day Nursery - Federal Center

Anthony J. Celebrezze Federal Building 216/522-4453
1240 East 9th Street
Post Office Box 99825
Cleveland, OH 44199
Center Name: Cleveland Fed Kid Child Care Center

Federal Courthouse and Custom House 218/723-1667
515 West 1st Street
Duluth, MN 55802
Center Name: University Nursery School Downtown

Everett Dirksen Federal Building 312/427-3342
219 S Dearborn Street
Chicago, IL 60604
Center Name: CCC Learning Center

O'Hare Office Plaza 708/803-5181
2300 East Devon
Suite 171
Des Plaines, IL 60018
Center Name: Lutheran General Children's Day Care

John W. Peck Federal Building 513/684-2046
550 Main Street
Room 1016
Cincinnati, OH 45202
Center Name: US Kids Child Care Center

Ralph H. Metcalf Federal Building 312-886-0834
78 West Van Buren Street
Chicago, IL 60604
Center Name: CCC Learning Center

REGION 6 COORDINATOR: Ms. Peggy Rodriguez
6PM
Federal Building
1500 East Bannister Road
Kansas City, MO 64131
816/926-7241

Robert Denney Federal Building 402/476-7644
100 Centennial Mall, North
Room 104
Lincoln, NE 68508
Center Name: Centennial Mall Child Care Center

Federal Building 816/421-3895
601 East 12th Street
Kansas City, MO 64131
Center Name: Corporate Kids

Federal Building 515/284-6650
210 Walnut Street
Room 109
Des Moines, IA 50309
Center Name: Uncle Sam's Developmental Day School

Bannister Complex, Building 52 816/926-1616
1500 East Bannister Road
Kansas City, MO 64131
Center Name: Bannister Complex Child Development Center

Edward Zorinsky Federal Builidng 402/341-7433
215 N. 17th Street
Room 1003
Omaha, NE 68102
Center Name: Edward Zorinsky Child Care Center

Robert A. Young Federal Building 314/539-3437
1222 Spruce Street
St. Louis, MO 63103
Center Name: Rainbow Castle, Child Development Center

Federal Center Building 104E 314/263-3437
4300 Goodfellow
St. Louis, MO 63120
Center Name: Uncle Sam's Kids

Federal Records Center Complex 314/538-4016
Building 100
9700 Page Boulevard
St. Louis, MO
Center Name: Just U.S. Kids

REGION 7 COORDINATOR: B. J. Upton
7PMA
819 Taylor Street
Fort Worth, TX 76102
817/334-8451

Alfred P. Murrah Federal Building 405/231-4808
200 N.W. 5th Street
#216
Oklahoma City, OK 73102
Center Name: U. S. Kids

Fort Worth Federal Center 817/334-5228
4750 Barwick Street
Post Office Box 6567
Fort Worth, TX 76115
Center Name: A Child's Place

IRS Service Center 512/462-8233
3819 South IH 35
Austin, Texas 78741
Center Name: Future Stars Child Development Center

Federal Building 214/748-6077
207 South Houston Street
Dallas, TX 75202
Center Name: Stars And Tykes

Concorde Tower 713/759-0440
2001 Louisiana Avenue
Houston, Texas 77002
Center Name: Concorde School Child Care Center

REGION 8 COORDINATOR: Jacki Fling
P.O. Box 25546
Denver, CO 80225-0546
303/236-7201

Denver Federal Center 303/233-5244
P.O. Box 25466
Denver, CO 80225
Center Name: Developmental Day School

IRS Service Center 801/625-7547
P.O. Box 9162
Ogden, UT 84409
Center Name: OSC Child Care Center

Federal Building/Colonnade Center 303/844-2428
1244 Speer Boulevard
# 170
Denver, CO 80204
Center Name: Clever Kids Learning Center

Federal Building/Custom House 303/844-6514
721 19th Street
Denver, CO 80204
Center Name: Custom House Children's Center

REGION 9 COORDINATOR: Tim Timberlake
9PED
525 Market Street
San Francisco, CA 94105
415/744-5515

Chet Hollifield Federal Building 714/643-4258
24000 Avila Road
Laguna Niguel, CA 92656
Center Name: Ziggurate Child Development Center

Federal Building 808/537-9351
300 Moana Blvd.
Honolulu, HI 96850
Center Name: Hoku Le'a School's, Inc.

Federal Building
2800 Cottage Way 916/971-4134
Sacramento, CA 95825
Center Name: Kids-On-Kampus Cottage Kids

U.S. Geological Survey 415/329-4234
345 Middlefield Road
Menlo Park, CA 94025
Center Name: GEO Kids

Hawthorne Building 415/882-9157
95 Hawthorne Street
San Francisco, CA 95105
Center Name: Hawthorne Child Care Center

Roybal Federal Building 213/894-1556
255 West Temple Street
Los Angeles, CA 90012
Center Name: Harry Pregerson Child Care Center

REGION 10 COORDINATOR: Eric Williams
400 15th Street, SW
Auburn, WA 98001
206/931-7774

GSA Center, Building 812 206/939-0234
400 15th Street, SW
Auburn, WA 98001
Center Name: Willow Place Child Care Center

Park Place Building 206/553-8212
1200 6th Avenue
Suite 200
Seattle, WA 98101
Center Name: Green Tree Child Care Center

Federal Center South 206/767-5797
4735 E. Marginal Way South
Seattle, WA 98134
Center Name: Tall Cedars Childcare

Multnomah Building 503/294-0847
333 SW 1st Street
Suite A
Portland OR 97204
Center Name: Joyful Noise Child Care Center, Inc.

Federal Building 503/230-4114
P.O. Box 3621
BPA-SPR-2
Portland, OR 97208
Center Name: Children's Holladay Center

Federal Building & U.S. Courthouse 907/276-8953
545 East 5th Avenue
Anchorage, AK 99501
Center Name: Tundra Tykes Child Care

The Bus Barn
540 Oak Street 509/344-0241
Eugene, OR 97401
Center Name: Oak Street Child Development Center

U. S. Forest Service 1815 Black Lake Boulevard, SW Olympia, WA 98502 Center Name: Cradle to Crayon Child Development Center	206/754-6428
Federal Building 200 SW 35th Street Corvallis, OR 97333 Center Name: Joyful Noise II	503/757-4368
Department of Energy 1167 Jadwin Avenue Richland, WA 99352 Center Name: The Learning Landscape	509/946-4609 or 4278

NCR COORDINATOR:
Cheryl DeAtley
Regional Office Building
Room 7921
7th & D Streets, SW
Washington, DC 20405
202/708-7250

Department of Housing and Urban Development 451 7th St., SW Room B-278 Washington, DC 20410 Center Name: Creative Child Development Center	202/778-1935
Department of Education 400 Maryland Ave., SW Room B-047, FOB 6 Washington, DC 20202 Center Name: Reed Learning Center	202/401-0466
Department of Health and Human Services 200 Independence Ave., SW Room 100 F Washington, DC 20201 Center Name: HHS Child Development Center	202/488-3362

Department of Labor 202/219-8553
200 Constitution Ave., NW
Room 1453
Washington, DC 20210
Center Name: DOL Child Care Center

Department of Transportation 202/267-7672
800 Independence Ave., SW
Washington, DC 20591
Center Name: DOT Day Care Center, Inc.

General Services Administration 202/501-1945
18th and F Streets, NW
Room 1028
Washington, DC 20405
Center Name: Fingerprints Child Development Center

Environmental Protection Agency 202/260-7290
401 M Street, SW
Washington, DC 20460
Center Name: Early Environments Child Development Center

Silver Hill Executive Plaza Building 301/899-0501
3701 St. Barnabus Road
Suitland, MD 20746
Center Name: Bureautots Child Care Center

General Services Administration 202/708-4886
Regional Office Building
7th & D Streets, SW
Washington, DC 20407
Center Name: The Creative Child Development Center

Department of Commerce 202/482-1587
Herbert Clark Hoover Building
15th and Pennsylvania Avenue, NW
Washington, DC 20230
Center Name: DOC Child Care Center

Federal Trade Commission 202/326-2088
6th & Pennsylvania Avenue, NW
Room 136
Washington, DC 20580
Center Name: FTC Child Care Center

IRS Building 1111 Constitution Avenue, NW Washington, DC 20044-0742 Center Name: National Office Child Development Center	202/622-4340
Union Center Federal Building 825 N. Capitol Street, NE Washington, DC 20426 Center Name: Martha O. Hesse Child Care Center	202/208-0610
U.S. Geological Survey 530 Huntmar Park Drive Suite 800 B Herndon, VA 22070 Center Name: Federal Children's Center of Northern Virginia, Inc.	703/476-2341
National Center for Health Statistics 6525 Belcrest Road Room G-80 Hyattsville, MD 20782 Center Name: First Impressions Child Care Center I	301/436-4283
Department of Agriculture Auditor's Building 14th & Independence Avenue, SW Washington, DC 20250 Center Name: La Petite USDA Child Development Center	202/205-1133
Department of Energy Forrestall Building 1000 Independence Avenue, SW Washington, DC 20585 Center Name: Energy Child Development Center	202/586-6800
Combined Federal Agencies 1425 New York Avenue, NW Washington, DC 20005 Center Name: U.S. Kids Child Development Center	202/233-4623
Department of Justice 625 Indiana Avenue, NW Washington, DC 20531 Center Name: Just Us Kids	202/219-3200

Transpoint Building c/o Commandant (G-CAS-2) 2100 2nd Street, SW Washington, DC 20593 Center Name: Our Kids Coast Guard Child Development Center	202/267-6075
Public Health Service 5510 Fishers Lane Rockville, MD 20857 Center Name: Healthy Beginnings Child Care Center	301/443-0161
Department of Energy 19901 Germantown Road German Town, MD 20545 Center Name: Germantown Child Development Center	301/903-8600

STATEMENT OF

P. GERALD THACKER

ACTING COMMISSIONER

PUBLIC BUILDINGS SERVICE

GENERAL SERVICES ADMINISTRATION

BEFORE THE

SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

FEBRUARY 23, 1993

GOOD MORNING MR. CHAIRMAN, AND MEMBERS OF THE SUBCOMMITTEE. THANK YOU FOR THE OPPORTUNITY TO APPEAR BEFORE YOU TODAY TO DISCUSS THE GENERAL SERVICES ADMINISTRATION'S VIEWS REGARDING SMOKING IN FEDERAL BUILDINGS.

THE GENERAL SERVICES ADMINISTRATION'S PUBLIC BUILDINGS SERVICE IS A REAL ESTATE ORGANIZATION OF NATIONAL SCOPE: WE PROVIDE NEARLY 260 MILLION SQUARE FEET OF SPACE LOCATED IN OVER 7,800 LEASED AND GOVERNMENT-OWNED BUILDINGS. THIS REPRESENTS APPROXIMATELY 10 PERCENT OF THE TOTAL FEDERAL INVENTORY. MORE THAN 1 MILLION FEDERAL EMPLOYEES WORK IN OUR FACILITIES. IN ADDITION, THERE ARE NUMEROUS VISITORS TO FEDERAL BUILDINGS; THE STAY FOR SOME MEMBERS OF THE PUBLIC, SUCH AS JURORS AND OTHER PARTICIPANTS IN COURT PROCEEDINGS, MAY BE LENGTHY.

THE PUBLIC BUILDINGS SERVICE IS COMMITTED TO PROVIDING QUALITY SERVICES AND THE BEST VALUE TO THE FEDERAL AGENCIES IN OUR FACILITIES, THEREBY CONTRIBUTING TO THEIR ABILITY TO CARRY OUT THEIR MISSIONS. WE BELIEVE THAT ONE OF THE MOST IMPORTANT ELEMENTS OF OUR PROPERTY MANAGEMENT RESPONSIBILITIES IS PROVIDING A SAFE AND HEALTHFUL WORK ENVIRONMENT FOR FEDERAL EMPLOYEES AND VISITORS TO OUR BUILDINGS.

THE ISSUE OF SMOKING IN THE WORKPLACE HAS RECENTLY BEEN ELEVATED TO A MORE SERIOUS CONCERN. WITH THE PUBLICATION OF THE ENVIRONMENTAL PROTECTION AGENCY'S REPORT, "RESPIRATORY HEALTH EFFECT OF PASSIVE SMOKING: LUNG CANCER AND OTHER DISORDERS," PASSIVE SMOKE CAN NO LONGER BE VIEWED AS MERELY AN INCONVENIENCE, A NUISANCE, OR A MATTER OF DISCOMFORT. IT IS A DEADLY CARCINOGEN, GROUPED WITH ASBESTOS, BENZENE AND RADON.

WE ARE PROUD THAT NEARLY SEVEN YEARS AGO, THE GENERAL SERVICES ADMINISTRATION RECOGNIZED THAT ENVIRONMENTAL TOBACCO SMOKE WAS A SERIOUS PROBLEM WHICH ADVERSELY AFFECTED OUR GOAL OF PROVIDING A HEALTHFUL WORKING ENVIRONMENT FOR FEDERAL EMPLOYEES. THE GENERAL SERVICES ADMINISTRATION TOOK STRONG MEASURES TO CURTAIL THE EXPOSURE OF NON-SMOKERS TO ENVIRONMENTAL TOBACCO SMOKE BY ISSUING A REGULATION TO LIMIT SMOKING IN OUR FACILITIES.

THIS REGULATION WAS PUBLISHED IN THE FEDERAL REGISTER FOR PUBLIC COMMENT PRIOR TO ISSUING THE FINAL RULE. AS PART OF THE COMMENTING PROCESS, THE GENERAL SERVICES ADMINISTRATION CONSULTED WITH SIX NATIONAL EMPLOYEE UNIONS INCLUDING THE AMERICAN FEDERATION OF FEDERAL EMPLOYEES, THE NATIONAL FEDERATION OF FEDERAL EMPLOYEES, THE NATIONAL TREASURY EMPLOYEE UNION, AND OTHERS. THE GENERAL SERVICES ADMINISTRATION ALSO CONSULTED WITH THE DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, AND THE OFFICE OF PERSONNEL MANAGEMENT.

THOSE CONSULTATIONS RESULTED IN THE PUBLICATION OF A NEW REGULATION THAT BANNED SMOKING IN THE GENERAL SERVICES ADMINISTRATION'S FACILITIES EXCEPT IN SMOKING AREAS SPECIFICALLY DESIGNATED BY THE OCCUPANT AGENCY HEAD. AUDITORIUMS, CLASSROOMS, CONFERENCE ROOMS, ELEVATORS, MEDICAL CARE FACILITIES, AND SIMILAR SPACE MAY NOT BE DESIGNATED SMOKING AREAS UNDER THE CURRENT REGULATION. DESIGNATED SMOKING AREAS IN OFFICE SPACE MUST BE CONFIGURED SO AS TO LIMIT THE INVOLUNTARY EXPOSURE OF NON-SMOKERS TO SECONDHAND SMOKE. SMOKING AREAS IN CORRIDORS, LOBBIES, AND RESTROOMS, MAY BE ESTABLISHED WHEN IT IS NOT POSSIBLE TO DESIGNATE A SUFFICIENT NUMBER OF OTHER SMOKING AREAS. THE REGULATION PROVIDES FOR SMOKING AREAS BEING ESTABLISHED IN CAFETERIAS. HOWEVER, THE REGULATION ALSO STATES THAT NOTHING PROHIBITS OCCUPANT AGENCY HEADS FROM ESTABLISHING MORE RESTRICTIVE GUIDELINES.

WITH THE CLASSIFICATION OF ENVIRONMENTAL TOBACCO SMOKE AS A CLASS A CARCINOGEN, THE EXISTING REGULATION DOES NOT PROVIDE THE NON-SMOKER WITH ADEQUATE PROTECTION. SECONDARY SMOKE RECIRCULATES THROUGHOUT THE BUILDINGS AS AIR IS CIRCULATED, FILTERED, COOLED, OR HEATED. BUILDING FILTERS ARE INCAPABLE OF ELIMINATING THE MICROSCOPIC CARCINOGEN MATERIALS THAT ARE CONTAINED IN TOBACCO SMOKE. THUS, EVEN NON-SMOKERS WHO MAY BE DISTANT FROM SMOKERS ARE EXPOSED TO THE CARCINOGEN. GIVEN THE NEW EPA FINDINGS THAT ENVIRONMENTAL TOBACCO SMOKE IS A CARCINOGEN GSA AND OTHER RESPONSIBLE DEPARTMENTS ARE IN THE PROCESS OF

REEXAMINING CURRENT POLICIES GOVERNING SMOKING IN FEDERAL FACILITIES.

LEGISLATION HAS BEEN INTRODUCED IN BOTH THE HOUSE AND SENATE THAT WOULD RESTRICT SMOKING INSIDE FEDERAL BUILDINGS. SOME WOULD LIMIT IT TO SEPARATELY VENTILATED AREAS OF THE BUILDING. OTHER LEGISLATION, AS WELL AS THE PUBLIC HEALTH SERVICE'S NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, WOULD ELIMINATE TOBACCO USE FROM THE WORKPLACE ENTIRELY. FROM A PROPERTY MANAGER'S PERSPECTIVE, A COMPLETE BAN IS THE SIMPLEST AND LEAST EXPENSIVE MEANS OF RESOLVING THE ISSUE.

ESTABLISHING SEPARATELY VENTILATED SMOKING AREAS THAT VENT AIR AND SMOKE TO THE OUTSIDE WITHOUT RECIRCULATING IT IN BUILDINGS WOULD BE EXPENSIVE; INITIAL CONSTRUCTION COSTS FOR INSTALLING NEW VENTILATION SYSTEMS IN EXISTING SPACE COULD RANGE FROM $30 TO $50 PER SQUARE FOOT. OTHER EXPENSES WOULD INCLUDE THE ANNUAL COST OF OPERATING AND MAINTAINING THAT EQUIPMENT AND THE COST OF SPACE USED ONLY AS SMOKING AREAS.

IF CONGRESS DOES APPROVE LEGISLATION ADDRESSING THIS QUESTION, THE GENERAL SERVICES ADMINISTRATION BELIEVES THAT IT SHOULD NOT MANDATE THE INSTALLATION OF SEPARATELY VENTILATED AREAS. RATHER, IT SHOULD CONTINUE TO ALLOW AGENCY HEADS THE OPTION OF COMPLETELY BANNING SMOKING IN THAT AGENCY'S FACILITIES.

THE SPEED WITH WHICH A COMPLETE BAN CAN BE IMPLEMENTED CAN BE AFFECTED BY LEGISLATIVE PROVISIONS AFFECTING OUR LABOR/MANAGEMENT NEGOTIATION RESPONSIBILITIES.

MR. CHAIRMAN, THANK YOU FOR YOUR INTEREST IN THE PUBLIC BUILDINGS SERVICE AND FOR INVITING US HERE TODAY TO DISCUSS THIS IMPORTANT ISSUE. WE LOOK FORWARD TO WORKING WITH THE SUBCOMMITTEE TO DEVELOP A POLICY THAT IS SAFE, HEALTHFUL, COST EFFECTIVE, AND RESPONSIVE TO THE NEEDS OF OUR TENANTS AND THE TAXPAYERS. I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS THE SUBCOMMITTEE MAY HAVE.

APPENDIX

Safeguarding the Future:
Credible Science, Credible Decisions

The Report of the Expert Panel
on the Role of Science at EPA

to

William K. Reilly
Administrator
U.S. Environmental Protection Agency

March 1992

January 8, 1992

Mr. William K. Reilly
Administrator
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Mr. Reilly:

Earlier this year, you asked us to help identify how EPA can meet the goal of using sound science as the foundation for the Agency's policy and program decisions. You asked us to recommend ways to: (a) ensure that EPA has up-to-date, objective scientific information for decisionmaking, (b) ensure that EPA's planning, resources, and leadership produce the knowledge base needed to achieve the Agency's new vision, (c) ensure that the research an scientific information needs of the programs and regions are met, and (d) enhance the statu of science within EPA and among the many constituencies with which EPA interacts.

To accomplish this task, we interviewed more than 30 individuals who have experience wit these issues. We also held three public meetings that included individuals from various EPA offices and programs, other government agencies, industry, environmental groups, and othe organizations. In addition, we requested written comments and received letters from more than 25 individuals, primarily from the EPA regional offices. We were impressed that so ma people wished to help EPA find better ways to acquire and use sound scientific information.

A number of consistent themes emerged from the discussions and comments. Everyone wh spoke with the Panel agreed that EPA needs its own strong science base to carry out its mission effectively. At the same time, the Agency needs to make certain structural changes t improve the quality of its science and the way science is used in decisionmaking. In this report, we have developed these themes as a series of findings and recommendations about science at EPA. Included are suggestions for both short- and long-term measures to enhance the use of sound scientific and technical information throughout the Agency.

We look forward to your serious consideration of these findings and recommendations and encourage you to take the necessary next steps as soon as possible. We appreciate the opportunity to be of assistance.

Sincerely,

Expert Panel on the Role of Science at EPA

Raymond C. Loehr, Chair
Bernard D. Goldstein
Anil Nerode
Paul G. Risser

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Executive Summary

BACKGROUND

The mission of the U.S. Environmental Protection Agency (EPA) is to preserve and improve the quality of the environment, protect human health, and safeguard the productivity of natural resources on which all human activity depends. To achieve these aims, the Agency is committed to ensuring that "national efforts to reduce environmental risk are based on the best available scientific information communicated clearly to the public" (*Strategic Direction for the U.S. Environmental Protection Agency: EPA...Preserving Our Future Today*, 1991). EPA also is dedicated to "providing leadership in the nation's environmental science, research, and assessment efforts." This includes:

- Gathering and analyzing the data needed to evaluate environmental risks and trends, measure environmental results, and inform the choices of institutions and individuals throughout society.
- Promoting and supporting innovative technological solutions to environmental problems.
- Encouraging and conducting research that improves our understanding of health and ecological risks.
- Providing objective, reliable, and understandable information that helps build trust in EPA's judgment and actions.
- Sharing research findings and innovative technologies with other nations.

In addition, EPA must be able to anticipate environmental problems caused by new and existing technologies and by societal changes.

BACKGROUND (CONTINUED)

Several recent reports, including *Future Risk: Research Strategies for the 1990s* (1988, SAB-EC-88-040) and *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (1990, SAB-EC-90-021), stressed that EPA must have a strong science base to accomplish these goals. Scientific knowledge has assumed an increasingly critical role as the environmental issues faced by the nation and the world grow in complexity and cut across all environmental media. The Agency must improve the scientific data and analytical methodologies needed to make sound decisions; to set risk-based priorities for protecting health and the environment; to support a new emphasis on protecting the health of the nation's ecosystems (such as forests, lakes, and wetlands); and to contribute to international environmental efforts.

THE EXPERT PANEL ON THE ROLE OF SCIENCE AT EPA

In early 1991, EPA Administrator William K. Reilly established the Expert Panel on the Role of Science at EPA as an independent advisory committee under the Federal Advisory Committee Act. The Expert Panel was charged with evaluating how EPA can meet the goal of using sound science as the foundation for Agency decisionmaking. The four members of the Panel were:

- Dr. Raymond C. Loehr (Chair of the Panel), H.M. Alharthy Centennial Chair in Civil Engineering, University of Texas.
- Dr. Bernard D. Goldstein, Director, Environmental and Occupational Health Sciences Institute, Rutgers University and University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School.
- Dr. Anil Nerode, Professor of Mathematics and Computer Science, Goldwin Smith Chair and Director, Mathematical Sciences Institute, Cornell University.
- Dr. Paul G. Risser, Provost and Vice President for Academic Affairs, University of New Mexico.

These individuals conduct extensive research programs and have had considerable experience with various EPA programs. In addition, they have served on national committees evaluating scientific and technical programs.

APPROACH

Over a period of four months, the Panel held three public meetings and interviewed more than 30 individuals from EPA, other government agencies, industry, environmental groups, and other organizations. The Panel also requested written comments and received letters from more than 25 individuals, primarily from the EPA regional offices.

The Panel performed no other independent evaluation of science at EPA; it did not review current research programs, visit EPA laboratories, or examine reports and data generated by EPA program and regional offices. Given the short time available for the Panel's review, the Panel determined that interviews and meetings with knowledgeable individuals within and outside EPA would be a more effective means of responding to its charge.

The meetings and discussions focused on five topics that are crucial to obtaining and using sound science for credible decisions:

- The mission and direction of EPA science.
- The quality of science at EPA.
- The quality of scientists at EPA.
- How the budget process affects science at EPA.
- How EPA uses science in decisionmaking.

The Panel defined science as encompassing a range of activities, including research and development, technical and regulatory support, monitoring, data collection, review and interpretation of technical studies, and assessments of health and environmental risk. The Panel intentionally included the science activities carried out in EPA program, policy, and regional offices, since such activities are part of the science EPA uses for decisionmaking. It also included the quantitative social sciences, such as economics, in addition to the physical, chemical, and biological sciences.

MAJOR FINDINGS AND RECOMMENDATIONS

The Panel found that several consistent themes and concepts emerged from the meetings, interviews, and letters. These are summarized in the findings and recommendations presented in subsequent sections of this report. Overall, the Panel affirms that EPA needs its own strong science base to provide the background required for effective environmental protection programs. Currently, EPA science is of uneven quality, and the Agency's policies and regulations are frequently perceived as lacking a strong scientific foundation. To remedy these problems, the Panel recommends that EPA leadership undertake a deliberate and continuing effort to create the climate, culture, and incentives necessary to encourage superior science. The Panel recommends several specific structural changes to enable EPA to obtain and use the high-quality science it needs to realize its mission. These changes address science throughout the Agency, not only in the Office of Research and Development (ORD). The Panel's central findings and recommendations are listed below.

Overall, the Panel affirms that EPA needs its own strong science base to provide the background required for effective environmental protection programs.

1

FINDING: EPA does not have a coherent science agenda and operational plan to guide scientific efforts throughout the Agency and support its focus on relatively high-risk environmental problems.

RECOMMENDATION: The Agency has moved in the right direction with its new issue-based planning process. EPA should further develop this process with the overall goal of producing a broadly based, rational plan to acquire and use the best scientific information. This planning process should apply to science throughout the Agency. Through this process, EPA can break from the past and shift toward the cross-media, anticipatory research needed to address complex, long-term, and global environmental problems.

2

FINDING: EPA has not clearly conveyed to those outside or even inside the Agency its desire and commitment to make high-quality science a priority.

RECOMMENDATION: EPA should send strong, clear signals to the scientific community and the public about its commitment to develop and use the best science for guidance and decisions. One immediate step to accomplish this could be the initiation of regular science briefings for the Administrator by EPA and non-EPA scientists on topics of critical concern to the Agency.

The Panel recommends that EPA leadership undertake a deliberate and continuing effort to create the climate, culture, and incentives necessary to encourage superior science.

3

FINDING. The science advice function—that is, the process of ensuring that policy decisions are informed by a clear understanding of the relevant science—is not well defined or coherently organized within EPA.

RECOMMENDATION: The Administrator should appoint a "science advisor" to ensure that credible scientific information for EPA guidance and decisions is available from both EPA scientists and the broader scientific community. The science advisor would implement a peer review and quality assurance program for all EPA's science-based products, improve the Agency's responsiveness to the science needs of EPA policymakers, play a key role in evaluating the professional activities of all scientists at EPA, and provide scientific advice to the Administrator.

MAJOR FINDINGS AND RECOMMENDATIONS (CONTINUED)

4

FINDING: In many cases, appropriate science advice and information is not considered early or often enough in the decisionmaking process.

RECOMMENDATION: EPA should take steps to ensure that science enters the decisionmaking process early and often. In regulatory development, EPA should implement a widely advertised, open process enabling the Agency to hear the scientific opinions of all parties. In addition, the Agency should analyze how it used science in developing one or more major regulations. The goal of this analysis would be to determine the type of scientific and technical information needed to ensure scientifically credible decisions, as well as the points in the regulatory process at which scientific input is most effective. The analysis should take into account the varying needs and decisionmaking processes of the different EPA program offices.

5

FINDING: The development and nurturing of human resources are central to improving science at EPA.

RECOMMENDATION: For ORD scientists, the Panel recommends continued attention to appropriate science and science management career tracks. For scientists in EPA program and regional offices, the Panel recommends establishing a science career track similar to that in place for those providing legal advice. The Agency also should enhance rotational opportunities that allow EPA scientists to participate in the broader scientific community and non-EPA scientists to work more closely with EPA's science programs.

6

FINDING: EPA requires that its scientific research products undergo peer review. However, the Agency does not have a uniform process to ensure a minimum level of quality assurance and peer review for *all* the science developed in support of Agency decisionmaking.

RECOMMENDATION: Quality assurance and peer review should be applied to the planning and results of *all* scientific and technical efforts to obtain data used for guidance and decisions at EPA, including such efforts in the program and regional offices. Such a requirement is essential if EPA is to be perceived as a credible, unbiased source of environmental and health information, both in the United States and throughout the world.

7

FINDING: A number of outstanding externally recognized scientists work at EPA. However, the Agency lacks the critical mass of externally recognized scientists needed to make EPA science generally credible to the wider scientific community.

RECOMMENDATION: EPA should recruit four to six research scientists or engineers with world-class reputations and provide them with a significant, long-term commitment of support. These individuals should be national and international leaders in scientific areas vital to the Agency's long-term strategy and direction. They would serve as mentors for developing scientists and provide access to networks of world-class scientists.

8

FINDING: For EPA to establish a reputation for having high-quality science to support its decisionmaking, its science activities must become more widely known. Academia, Congress, other federal agencies, industry, and the public generally are unfamiliar with the work of EPA scientists.

RECOMMENDATION: The Agency should undertake a communications, outreach, and education effort to publicize the activities and accomplishments of EPA scientists.

9

FINDING: EPA often does not evaluate the impact of its regulations. Implementation of an environmental policy or regulation provides a unique opportunity to study the environmental response to changes brought about by regulations, such as changes in the type and amount of pollutants.

RECOMMENDATION: The Agency should scientifically evaluate the environmental improvements brought about by the major regulations it promulgates. This will help EPA better understand the effectiveness of its regulatory strategies and how those strategies affect environmental processes.

10

FINDING: EPA science could benefit substantially from increased scientific contact and openness with other organizations.

RECOMMENDATION: The Agency should encourage increased participation of its scientists in the activities of the scientific community. It should enhance relationships with other federal agencies and appropriate industrial and academic research organizations and promote the participation of EPA scientists in the technical activities of professional societies.

11

FINDING: EPA has not consistently enlisted the nation's best scientists to provide the research and technical information needed for decisionmaking. Problems in the Agency's approach to academic grants and centers have discouraged many university-based experts from working with EPA. In addition, the program and regional offices and ORD laboratories often rely on contractual mechanisms that prevent EPA from obtaining the best outside scientists to work on EPA issues.

RECOMMENDATION: EPA should move quickly to bolster its grants and centers program. The Agency also should implement a long-term plan to replace contractual mechanisms that may be detrimental to obtaining the best possible scientific information.

The Expert Panel

EPA's 1991 statement of strategic direction (Appendix A) calls for sound science to serve as the foundation for the Agency's policy and program decisions. In May 1991, EPA Administrator William K. Reilly established the Expert Panel on the Role of Science at EPA as an independent advisory committee to the Agency under the Federal Advisory Committee Act. The Panel, consisting of Drs. Raymond C. Loehr (Chair), Bernard D. Goldstein, Anil Nerode, and Paul G. Risser, was charged with developing recommendations to help the Agency achieve the following goals:

- Identify how best to provide the Administrator with up-to-date, objective scientific information in keeping with the Agency's new strategic direction.
- Ensure that the knowledge base necessary to achieve the new vision is available through proper planning, adequate resources, and necessary leadership.
- Ensure that the research and scientific information needs of the programs and regions are adequately met and their views incorporated in the scientific advice provided to the Administrator.
- Enhance the stature of science within EPA and among the many constituencies with which the Agency interacts.

The Administrator asked the Panel to work with the Assistant Administrator for Research and Development and other EPA offices to accomplish this task and asked the program Assistant Administrators to cooperate fully in this endeavor. Additional details about the charge to the Panel and the affiliations of Panel members are included in Appendix B.

The Administrator asked that the Panel report back with its recommendations in four to six months. Given this short time frame, the Panel decided to rely primarily on interviews with key science and policy leaders, both within and outside EPA, to identify areas of concern and generate ideas for solutions. The Panel did not conduct any other independent evaluation of science at EPA; it did not review current research programs, visit EPA laboratories, or examine reports and data generated by the program and regional offices.

Over a period of four months, the Panel held three public meetings to discuss the role of science at EPA. It also interviewed more than 30 individuals from EPA, other government agencies, industry, environmental groups, and other organizations. These discussions took place in closed fact-finding sessions to ensure an open expression of views. Because the time available for interviews was limited, the Panel also requested written comments. More than 25 individuals, mostly from the EPA regional offices, sent written comments to the Panel. Appendix C lists the individuals interviewed by the Expert Panel and Appendix D lists those who attended the public meetings or provided written comments.

The Panel completed its fact-finding in September 1991. The Panel thanks everyone who attended the public meetings, participated in discussions, and submitted comments for their candid and helpful input. The Panel apologizes to the many people it was unable to interview in person.

During the meetings and discussions, the Panel focused its attention on five topics crucial to the acquisition and use of sound science in support of decision-making at EPA:

- The mission and direction of EPA science.
- The quality of science at EPA.
- The quality of scientists at EPA.
- How the budget process affects science at EPA.
- How EPA uses science in decisionmaking.

In this report, the Panel uses the term "science" in its broadest sense: it encompasses a range of activities, including research and development, technical and regulatory support, monitoring and data collection, review and interpretation of technical studies, and assessments of health and environmental risks. By using this definition, the Panel intentionally includes the scientific activities conducted by EPA program, policy, and regional offices; these activities are part of the science EPA uses in its decisionmaking. The Panel also includes the quantitative social sciences, such as economics, as well as the biological, chemical, and physical sciences.

A number of consistent concepts and views emerged during the Panel's fact-finding process. Everyone who spoke with the Panel agreed that EPA needs its own strong science base to carry out its mission effectively. At the same time, all expressed concerns about the quality of EPA science and encouraged improvements in the way EPA uses science in decisionmaking. The following pages detail the Panel's findings concerning science at EPA and recommendations for addressing those concerns. These findings and recommendations represent the Panel's synthesis and evaluation of the ideas provided in the interviews, public meetings, and written comments.

Background

The basic mission of EPA is to preserve and improve the quality of the environment, protect human health, and safeguard the productivity of natural resources on which all human activity depends. In carrying out this mission, EPA must implement the programs mandated by law as its first priority. However, it has responsibilities beyond the activities mandated by legislation. It also must provide leadership on the scientific and policy issues involved in environmental protection. In addition, EPA must develop, evaluate, and use risk reduction strategies, including those that go beyond the conventional command-and-control regulatory approach, in varying political, cultural, and social contexts.

Previous advisory reports stressed that EPA needs a strong scientific base for its decisions. *Future Risk: Research Strategies for the 1990s* (1988, SAB-EC-88-040) and *Reducing Risk: Setting Priorities and Strategies for Environmental Protection* (1990, SAB-EC-90-021) made many recommendations about science at EPA. *Future Risk*, for example, recommended that EPA plan and implement a long-term research program in specific core research areas, improve its capability to anticipate environmental problems, and expand its efforts to understand how and to what extent people are exposed to environmental pollutants. *Reducing Risk* argued that, to take advantage of the best opportunities to reduce risk, EPA must improve the data and analytical methodologies that support the assessment, comparison, and reduction of different environmental risks.

Many changes are under way in ORD, the program offices, and the regional offices to bring about needed changes in EPA science. This report builds on previous advisory reports to EPA, current activities within EPA, and the knowledge of individuals in other government agencies and the private sector who have faced similar problems in providing high-quality science for decision-making. The report focuses on structural changes to ensure that EPA science can help the Agency realize its new vision for environmental protection. These findings and recommendations are another building block in EPA's efforts to safeguard human health and the environment.

THE ROLE OF SCIENCE AT EPA

According to EPA's 1991 statement of strategic direction (Appendix A), EPA is committed to ensuring that national efforts to reduce environmental risk are based on the best available scientific information communicated clearly to the public. EPA should be a credible source of science information for all parties within and outside EPA. To achieve this goal, the Agency must acquire scientific information from its own programs as well as from industry, academic institutions, other government agencies, private organizations, and other nations.

A key role of science at EPA is to reduce uncertainties in environmental decision-making. While scientists have made significant progress in measuring and comparing risks to human health and the environment, many uncertainties remain. For example, most of our current knowledge concerning how humans respond to environmental pollutants comes from research with laboratory animals under conditions very different from those that humans actually experience. Many uncertainties, therefore, are involved in deducing how the information gained through this laboratory research applies to people. Other areas of uncertainty include the impact of chemical mixtures and other general stressors on the environment. People and ecosystems are exposed not simply to single chemicals, but to mixtures of different chemicals. The environment is also affected by complex, diffuse factors such as temperature changes, habitat loss, and ozone depletion. EPA historically has focused on chemical-specific impacts and has not developed methods to assess or control the effects of chemical mixtures and general stressors on humans and ecosystems.

Science is especially necessary to characterize today's subtle and complex environmental problems that cut across all environmental media (air, water, and land) and transcend national boundaries, such as loss of species diversity, acid deposition, and stratospheric ozone depletion. Science, in fact, is inherently cross-media and international in nature and can be the catalyst for focusing greater attention on cross-media environmental issues.

Science is also key to determining which environmental problems pose the greatest risks to human health, ecosystems, and the economy. In the absence of sound scientific information, it is likely that high-profile but low-risk problems will be targeted, while more significant threats are ignored. When science and data are uncertain, regulations and policies are often developed to protect every person or every ecosystem uniformly against hazards that few will actually experience. This can impose a heavy burden on the economy and society withou providing better protection for most of the population or the nation's ecosystems The technical support programs maintained by EPA and other agencies are essential to developing the scientific information needed to accurately gauge the costs and benefits of proposed regulations and nonregulatory strategies.

In addition, science is critical for developing cost-effective strategies to reduce environmental risks. It provides a foundation for the Agency's efforts to make greater use of alternatives to traditional approaches to risk reduction, to develop and improve pollution control technologies, and to identify changes that all sectors of society can make to prevent or reduce pollution.

Finally, science is needed to help anticipate future environmental problems. For example, carefully structured monitoring programs combined with rigorous analysis can paint an accurate picture of present conditions, describe what is happening to an individual or an ecosystem over time, and help predict the environmental consequences of future actions. If scientists can identify emerging environmental trends and their consequences, EPA and the nation can take steps now to reduce the risks posed by these trends, rather than pay the much larger costs to address problems that have evolved to maturity.

In short, science is one of the soundest investments the nation can make for the future. Strong science provides the foundation for credible environmental decisionmaking. With a better understanding of environmental risks to people and ecosystems, EPA can target the hazards that pose the greatest risks, anticipate environmental problems before they reach a critical level, and develop strategies that use the nation's, and the world's, environmental protection dollar wisely.

The Mission and Direction of EPA Science

EPA's environmental protection strategies are undergoing important shifts—for example, toward setting risk-based priorities, a greater emphasis on pollution prevention, and increased attention to reducing ecological risks. To support and help define these changes, the mission and direction of EPA science must evolve as well.

In addition, because limited resources prevent EPA from being equally strong in all areas, the Agency must clearly define the mission and direction of its science activities. Other organizations (such as other government agencies, academic institutions, and industry) have strong programs in scientific and technical areas pertinent to the interests of EPA; information from those programs should be available and used for EPA guidance and decisionmaking. Therefore, it is important to identify the scientific areas in which EPA should maintain its own strength.

The Panel addressed the following questions regarding the mission and direction of EPA science:

- In which scientific areas should EPA be a leader, and in which should it be primarily a catalyst for and a user of information?
- How can the Agency be aware of and acquire information from the broader scientific community?
- How is the Agency's strategic planning process shaping the mission and direction of EPA science?
- To what extent is EPA's desire to base decisions on the best scientific information recognized outside EPA?
- What is the perception of EPA science in the broader scientific community and among decisionmakers who draw upon scientific and technical knowledge?

FINDINGS

1. EPA needs its own strong science base to provide the scientific foundation for effective decisionmaking. This is true for a number of reasons:

   - EPA decisions frequently are controversial and affect broad sectors of society and the economy. Controversial issues demand a strong science base when decisions are made.
   - EPA cannot rely only on other government agencies to develop the scientific information it needs for decisionmaking.
   - The existence of its own science base allows EPA to tie science to long-term regulatory objectives and other environmental protection strategies.
   - Interaction between scientists and policymakers is essential for sound decisionmaking.
   - Some scientific activities, such as controlled human exposure studies, require special facilities that are beyond the capability of most university-based research programs.

Several examples clearly illustrate the importance of in-house EPA expertise. In the early 1980s, non-ionizing radiation was thought to present little risk to human health. As a result, EPA lost its funding for the handful of researchers it had in this area. This loss of in-house expertise has left the Agency in an awkward position as it attempts to respond to today's rapidly escalating concerns about the health effects of non-ionizing radiation.

In contrast, in the mid-1980s, EPA was able to obtain adequate funding to begin a research program in the new field of biotechnology. The Agency recruited a number of scientists who were experts in using the tools of modern biology. When the *Exxon Valdez* spilled 11 million gallons of crude oil in Prince William Sound, Alaska, in 1989, these scientists helped lead a highly acclaimed research effort to develop a cleanup method using microorganisms to break down oil on contaminated beaches.

FINDINGS
(CONTINUED)

2. Regulations are based on both technical and policy considerations. Improper decisions can result if either the scientific or policy input is flawed. A perception exists that regulations based on unsound science have led to unneeded economic and social burdens, and that unsound science has sometimes led to decisions that expose people and ecosystems to avoidable risks.

3. Despite substantial efforts on the part of the Agency, most people outside EPA do not recognize that EPA has made strong science a priority.

4. A number of scientists and engineers at EPA are recognized as being very knowledgeable, conducting state-of-the-art research, and/or being highly skilled at synthesizing and analyzing information. Overall, however, the science base at EPA is not *perceived* as strong by the university community, Congress, other federal agencies, or industry. Most EPA scientists are not seen as playing a dominant or even influential role in the scientific community. Several individuals indicated that EPA science has been virtually invisible when broad national environmental policy issues are discussed and developed.

5. Many officials involved in funding EPA science are uncertain about what science products EPA has produced, and whether the quality and quantity of these products are commensurate with the dollars expended. When Congressional committees ask for a justification of proposed laws or regulations, expert EPA scientists rarely are made available as a matter of course to answer questions about the scientific defensibility of Agency decisions.

   EPA policy and regulatory work receives a great deal of public attention; EPA science receives a similar degree of attention only when the scientific basis of a decision is questioned. It is crucial, therefore, that the Agency consistently place its scientific goals and achievements before the public eye.

6. In response to the Science Advisory Board's recommendations in *Future Risk: Research Strategies for the 1990s*, EPA established a core research program. The core program is designed to generate knowledge to support *all* areas of environmental decisionmaking, not just the immediate needs of the program offices. The program also is intended to maintain a core of expertise and

resources that will provide the continuity needed for effective research. The original priorities of the core program included:

- Monitoring baseline conditions and trends in the nation's ecosystems.
- Developing new tools and strategies for pollution prevention.
- Establishing a national database on the extent and nature of human exposure to pollutants.
- Determining the human health effects of multiple exposures to low levels of pollutants.
- Supporting academic research on environmental problems.

There appears to be increasing recognition across the Agency that fundamental research is needed to support EPA's strategic direction. The areas addressed in the core program are somewhat narrow, however, and the core research budget, while growing, is a small fraction of the Agency's overall science budget.

7. EPA lacks a coherent agenda for science throughout the Agency. It also lacks a coherent operational plan for its science activities (that is, a plan for identifying the most important scientific issues and a rational organizational approach to acquiring the necessary scientific information). Both are essential to support the Agency's focus on relatively high-risk, cross-media environmental problems. EPA's science strategy must include plans for science activities to anticipate future environmental problems. The only certain prediction for the future is that an environmental issue of critical importance that no one has predicted will appear; EPA must have a strong science base and flexibility to deal with unanticipated problems.

8. EPA must draw on the expertise of other organizations to obtain the best scientific information available. Currently, however, the Agency lacks adequate mechanisms for acquiring such information from the broader scientific community.

Global environmental issues represent one area in which EPA needs to tap the expertise of other scientific organizations. EPA unquestionably is the lead agency representing the United States on international environmental matters, such as global warming and deforestation. This role has grown in importance as the nation realizes how events elsewhere on the planet affect the U.S. environment, as well as how environmental controls can improve economic productivity and international competitiveness. EPA cannot fulfill this role, however, unless it obtains scientific information from scientists throughout the nation and the world.

RECOMMENDATIONS

1. EPA should make a deliberate effort to create and maintain the climate, culture, and incentives necessary to encourage superior science at EPA.
2. The Administrator should send broad, clear, and continuing signals within EPA, to the wider scientific community, and to the public about the importance of having high-quality science to protect health and the environment. Examples of actions EPA could undertake include:
    - Requesting periodic briefings for the Administrator by EPA and non-EPA scientists on issues of concern to the Agency.
    - Obtaining a full, documented discussion of the scientific pros, cons, and uncertainties as decisions and policies are developed.
    - Requiring credible, independent peer review of all scientific and technical efforts by ORD and the program and regional offices (including model development and use, data collection and evaluation, monitoring plans, research, technical studies, scoping studies, and assessments).
    - Hosting workshops and meetings on scientific issues for non-EPA as well as EPA scientists, with senior EPA management expected to attend.

3. To be seen as an unbiased source of environmental and health information, EPA needs to make its scientific and technical efforts more widely known. The Agency should develop and implement a coherent communications, outreach, and education plan to publicize the scientific and technical output the Agency is producing for the budget provided. This should be a high-priority team effort on the part of ORD, the Office of Congressional and Legislative Affairs, and the Office of Communications and Public Affairs. The communications materials should be prepared in terms that non-EPA scientists, Congress, and the public can understand. They should describe the short-term research in support of regulation and policy and the long-term anticipatory research performed by EPA laboratories, by other agencies with EPA support, by external commercial contractors, and through university grants and contracts.

4. EPA's current effort to modify its research planning process should be watched carefully to ensure that it leads to a coherent science agenda and operational plan for science throughout the Agency. The plan should define the year-by-year structural changes and programs needed to implement the Agency's risk-based approach.

5. The Agency should assemble an anticipatory research program that draws on the expertise of EPA and non-EPA scientists. Such a program will help ensure that EPA does not lose sight of future environmental problems while carrying out its day-to-day activities.

6. EPA should build its core research program to address comprehensively the following areas:

   - Release, transformation, transport, and fate of materials in the environment, including pathways of exposure for humans and ecosystems.
   - Evaluation of ecological effects on a range of geographic scales (such as local, regional, and global effects).
   - Ecological risk assessment.

RECOMMENDATIONS (CONTINUED)

- Risk reduction technology research and development.
- Monitoring and evaluation of environmental trends.
- Prediction and evaluation of environmental risks to humans.

7. EPA should initiate collaboration with other agencies and the broader scientific community to formulate a joint national strategy for the environment, recognizing that a stronger EPA science base is required for such an initiative. A joint national strategy will allow EPA to exert leadership in identifying current and long-range problems, including those outside EPA's areas of science expertise, and in developing a multi-agency plan.

8. EPA should consider changing the name of the Office of Research and Development to the Office of Science, Engineering, and Technology to recognize the broader science responsibilities of the Agency.

The Quality of Science at EPA

The Expert Panel attempted to determine the quality of science obtained and used by EPA. The Panel defined a high-quality science program as one that clearly identifies the most relevant scientific and technical issues; uses the most powerful experimental and analytical designs; employs accurate measurement techniques; evaluates the results with the most appropriate mathematical models; and subjects the methods, results, and interpretations to independent review by a wide variety of experts.

Issues the Panel considered regarding the quality of EPA science included:

- How can the quality of science be ensured?
- To whom should contract or federal scientists be accountable for the quality of their science: scientific leaders or policymakers?
- Is the science provided for decisionmaking at EPA the best available in the scientific community, or only the best available within the EPA community?
- What type of research should be done in house, and what research should be subject to widely advertised open competition?

At EPA, science in support of regulation is performed under contract to the program and regional offices, in ORD laboratories, by contract employees, by external contractors, by external grantees, and through external cooperative agreements. It is in this context that the Panel discussed the above issues and developed its recommendations.

FINDINGS

1. Science should never be adjusted to fit policy. Yet a perception exists that EPA lacks adequate safeguards to prevent this from occurring.

2. Quality assurance and peer review are essential for ensuring that the best scientific information is used for decisionmaking. EPA requires that its research products undergo peer review, but does not have an Agency-wide policy for *all* science products.

   Science activities to support regulatory development—particularly those carried out by the program and regional offices—do not always have adequate, credible quality assurance, quality control, or peer review. Technical studies and data collection efforts, for example, are an important component of science at EPA, and are as important to environmental decisionmaking as scientific and technical research projects. Yet they often lack significant quality assurance and peer review.

   In a significant number of instances, EPA receives sound advice from peer review panels. However, this advice is not always heeded. The Agency lacks a system of accountability that actively considers external advice and consciously makes decisions about its applicability and use.

3. EPA, like many other scientific organizations, does not give sufficient attention to validating the models, scientific assumptions, and databases it uses.

4. The present constituency served by EPA science consists primarily of the EPA program offices and regions, not the broad scientific community. In addition, EPA does not regularly consult or sponsor the research of most of the best external scientists working in areas of direct interest to EPA. These problems stem, in part, from the inability of EPA's grants and centers program to interface with the scientific community, given the limited funding available. The many starts and stops in this program have been counterproductive for eliciting the interest and cooperation of scientists outside EPA.

5. The use of large level-of-effort contracts in many parts of the Agency does not promote or ensure the use of high-quality science. The program, regional, and policy offices often use large level-of-effort contracts to conduct technical

studies. Many ORD laboratories have onsite contractors that may provide services beyond basic support functions; scientists employed by contractors sometimes even co-author EPA publications. In these situations, large contracts apparently are used for administrative convenience. The Panel believes that EPA's reliance on these types of contracts for technical expertise prevents EPA from getting the best outside scientists to work on EPA issues. In addition, work performed for EPA through level-of-effort type contracts may not receive adequate quality assurance or peer review.

RECOMMENDATIONS

1. The science advice function within EPA—that is, the process of ensuring that policy decisions are informed by a clear understanding of the relevant science—should be enhanced and coherently organized within EPA. The Administrator should appoint a distinguished scientist or engineer to function as EPA's science advisor. This individual could be selected from within or outside EPA. The Panel feels strongly that the Agency needs a science advisor with an appropriate level of support to ensure that credible science for guidance and decisionmaking is available from both EPA scientists and the broader scientific community.

   The role of the science advisor would include:

   - Ensuring that EPA reaches out to the broader scientific community for information.
   - Bridging the potential gap between scientists and decisionmakers within the Agency.
   - Being a key player when EPA makes policy decisions. He or she would make sure that, before the Agency makes a decision, it considers the pros, cons, and uncertainties of the science relevant to a policy or regulatory issue.
   - Playing a key role in evaluating the professional activities of all EPA scientists as they are considered for awards, promotions, and merit salary increases.

RECOMMENDATIONS (CONTINUED)

- Implementing a peer review and quality assurance program (see Recommendation #2 below) for all EPA science-based products, wherever they originate. This would provide accountability for high-quality science throughout EPA and would demonstrate that rigorous peer review is expected for all scientific and technical information used for decisionmaking.
- Developing an appropriate relationship with EPA's Science Advisory Board.

Although the details may differ, the role of the science advisor would be analogous to the role of the General Counsel, who will not release a document destined for an external audience until it is judged legally defensible.

This recommendation could be implemented using one of several different models. In one model, the science advisor would be a strong senior scientist on the Administrator's staff. He or she would provide independent scientific opinions for all policy decisions and would directly influence the Administrator's final decisions. To ensure a relationship of confidence between the science advisor and the Administrator, this individual could be chosen anew by each Administrator. The science advisor would require a small staff and would need access to the science advisory staff of the Assistant Administrators.

In a second model, the science advisor function would be performed by the Agency's science office. This model could be implemented using two different organizational options: (a) The science advisor would be a career scientist in the position of a Deputy Assistant Administrator under the Assistant Administrator for Science, Engineering, and Technology. (ORD would be renamed to acknowledge the Assistant Administrator's responsibility for science throughout the Agency.) (b) Alternatively, the Assistant Administrator for Science, Engineering, and Technology would be the science advisor. He or she would have two Deputy Assistant Administrators, separately responsible for the science advice function and research operations. Under this model, the science advisor would be in a position to direct scientific resources to address the information needs identified through the science advice process.

Each of these approaches has both advantages and disadvantages. For example:

- A science advisor on the Administrator's staff would be somewhat removed from scientists in the Agency and would not be able to direct resources to address scientific issues.
- A science advisor who served as a Deputy Assistant Administrator for Science, Engineering, and Technology might have difficulty exercising a strong role on the inner counsels of the Administrator.
- A science advisor who served as the Assistant Administrator for Science, Engineering, and Technology would both manage the research organization and provide objective, independent scientific advice; in some cases, these responsibilities might conflict. For example, a conflict might arise between promoting EPA research products and providing independent opinions on those products.

Ultimately, the model chosen will depend on the capabilities and requirements of the individual who is selected to be EPA's science advisor, as well as the preference of the EPA Administrator.

2. Quality assurance and peer review should be applied to the planning and results of all scientific and technical efforts, including research, technical studies, and data collection, used for guidance or decisions at EPA. EPA's goal should be to provide uniform peer review for the most significant science activities in the Agency. EPA should institute an independent peer review

program for all its science-dependent products, including those developed by the program and regional offices. The current peer review process in ORD should be reviewed, strengthened, and organized to ensure that *all* in-house and extramural science programs receive timely, credible review.

Peer review and quality assurance should be required at early as well as final stages of an effort. Peer review should be specified in the original study design rather than considered only after the results are obtained. This will ensure that the plans for such products, as well as the results, are scientifically defensible.

3. EPA should give more attention to validating the models, scientific assumptions, and databases it uses.

4. EPA should place a high priority on establishing an effective grants and centers program aimed at enlisting the nation's scientific expertise to address issues of central importance to EPA.

5. EPA should thoroughly review the use of in-house contracts by ORD and level-of-effort contracts by program, regional, and policy offices. The Agency's goal should be to replace many of these contractual approaches with approaches that enlist the best scientific expertise for a given task. For all research, studies, data collection, and other related scientific and technical efforts, EPA should attempt to obtain the best scientists by using widely advertised requests for proposals. EPA should look for ways to improve administrative contracting procedures to facilitate the use of open, competitive contracting by EPA offices and laboratories. The Agency should develop and use explicit criteria for matching a scientific issue to be addressed with the most appropriate research vehicle (such as in-house scientists, university-based researchers, or researchers in other organizations).

The Quality of Scientists at EPA

The Panel considered a number of issues related to the quality of the individuals at EPA who acquire, develop, and evaluate scientific and technical information. These issues included:

- What is the current quality of scientists at EPA?
- Does EPA provide a supportive environment with sufficient incentives to encourage excellence in science?
- How can EPA attract, nurture, and keep scientists of high quality?

FINDINGS

1. An inadequate infrastructure and a lack of long-term support have limited EPA to a small number of externally recognized outstanding scientists. The Agency does not yet have the critical mass of such scientists needed to make EPA science generally credible to the broader scientific community.
2. Many EPA scientists do not perform laboratory research, but rather provide technical and regulatory support. The quality of these scientists should be judged by somewhat different criteria than those that apply to research scientists, but in both cases, standards for high-quality science must prevail.
3. EPA provides insufficient incentives to reward the production of high-quality science. The current reward system encourages scientists supporting regulatory development to finish their analyses on time, even if additional time might allow them to produce analyses that are sounder and more credible from a scientific or technical standpoint.

RECOMMENDATIONS

1. To increase the number of outstanding scientists and engineers in EPA laboratories, the Agency should immediately recruit and make a long-term commitment of support for four to six research scientists and engineers with world-class reputations. These individuals should be national and international leaders in scientific areas vital to the Agency's long-term strategy and direction. They would serve as examples and mentors for all scientists within EPA. They also would bring with them access to networks of world-class scientists, benefiting both younger scientists and EPA as a whole.

   These scientists should be designated as special Scholars or Scientists (such as Leopold Scholars, after the pioneering conservationist Aldo Leopold) to provide clear recognition of their status and role. Qualified scientists and engineers currently at EPA *also* should be eligible for recognition as named Scholars or Scientists.

   EPA should use a national and international competition with external evaluation to attract these individuals. The Agency should ask the Science Advisory Board to form a search committee and to recommend which disciplines the four to six scientists should represent. The research areas should be ones that are not strong in other agencies, but that are essential to reducing uncertainties in EPA decisionmaking. Examples include:

   - Risk reduction methods and technology.
   - Broad-scale ecological effects and risks.
   - Transport and fate of materials, including multi-media pathways of exposure of humans and ecosystems.
   - Cost-effective monitoring on a range of geographic scales.
   - The biological basis for the prediction of health risks.

2. EPA should expand the use of career development paths, such as those in place for research scientists. The Agency should establish a separate science

career track for individuals in the program offices who have appropriate scientific and technical background and who are regularly involved in providing science advice or reviewing science issues and data for regulatory purposes. This track would be analogous to that in place for those providing legal advice (i.e., attorneys in Agency programs). It would include the requirement that the Agency's science advisor approve promotions (see "The Quality of Science at EPA," Recommendation #1). Criteria for a scientist's promotion should include evidence of continuing advancement in his or her discipline, such as completion of coursework, receipt of board certification, or other professional recognition; publications in the relevant scientific literature; and contributions to the work of scientific organizations.

Recommendations from leading non-EPA scientists should also play a significant role in advancement of scientists at EPA. A panel of scientists from universities and other agencies should regularly evaluate the scientific productivity of EPA scientists. This evaluation should be a requirement for promotion of scientists within the Agency.

3. To ensure that EPA scientists are continually exposed to and challenged by current knowledge and methodologies, the Agency should increase scientific contact and openness with other government and private sector organizations, including industry, universities, trade associations, professional societies, and environmental organizations. An example of a successful effort in this area is the Soil Conservation Service's annual Science Day, where hundreds of government scientists gather to network and hear technical reports on the activities of sister agencies.

   In addition, the Panel strongly recommends that the Agency expand opportunities for rotations that allow scientists from other organizations to work in EPA's science programs and EPA scientists to participate in the scientific efforts of other organizations. When an EPA scientist rotates to an academic setting, the Agency should expect that he or she will produce peer-reviewed publications. A successful rotation should assist an EPA scientist in obtaining promotions and salary increases. An enhanced rotation program would not only benefit EPA scientists but also promote joint research efforts by EPA with

RECOMMENDATIONS (CONTINUED)

other scientific organizations. It would improve the Agency's ability to plan and implement scientific studies needed for environmental guidance and decisionmaking. A possible model for a rotation program might be found in Japan, where industry scientists work in government laboratories.

4. EPA should use its reward structure to encourage superior science and science management in the Agency. For example, to qualify for raises and promotions, EPA scientists should be routinely required to prepare papers for peer-reviewed journals and participate in relevant scientific societies in ways that gain recognition for EPA science (for example, through involvement in the conduct of meetings or governance of organizations). To support these activities and enhance the Agency's scientific environment, EPA must minimize its scientists' bureaucratic duties and ensure that they spend a significant percentage of their time on scientific activities. In addition, EPA should develop competitive compensation packages allotted on the basis of comparison with the best of one's peers.

How the Budget Process Affects Science at EPA

The Panel addressed the issue of how EPA's research and science budget affects the numbers and types of scientists at EPA, as well as the quality of the science the Agency undertakes. Key questions considered by the Panel included:

- How does the budget process affect the quality of science at EPA?
- Does the budget process discourage long-term strategic planning for high-risk/high-return research?
- Does the budget process hinder EPA in conducting anticipatory research to identify environmental problems before they become critical?
- Should a long-term, anticipatory research budget be separated from a short-term research and development budget?

FINDINGS

1. Finding solutions to today's increasingly complex environmental problems requires a greater emphasis on a cross-media approach. EPA's budget, however, does not adequately reflect this fact. The current budget process is an obstacle to formulating and carrying out a coherent science strategy. Currently, the yearly budget process for ORD is governed by a media-specific approach that extends from within the Agency to the Office of Management and Budget (OMB) and Congress. The process places an undue emphasis on media-specific endpoints, to the detriment of science related to important cross-media environmental problems.

2. Congress, OMB, and others currently do not understand the strategic direction EPA wishes to pursue in environmental science. EPA, in turn, cannot present Congress with a rational argument for an appropriate funding level

FINDINGS (CONTINUED)

for science without first developing a coherent strategic plan for its science efforts.

3. EPA science programs currently are unable to carry out prolonged research or anticipate future information needs. This is true for two reasons: first, the Agency is not yet looking far enough ahead to be able to anticipate emerging environmental problems; second, EPA's science programs are not structured to allow for the continuity of funding needed to pursue long-term issues. The current budget process makes it difficult, if not impossible, to ensure continuity of funding for the long-term, anticipatory research and assessment that are essential to reducing uncertainty in future decisionmaking. These long-term needs are often preempted by short-term deadlines, leaving EPA and the nation unprepared for later problems.
4. ORD's contribution to the technical support of regulations does not receive the recognition it deserves, because these activities are not identified separately from other science activities in the research budget.
5. Scientists outside EPA regard EPA contracts as the least desirable funding mechanisms among those of all federal agencies because of inconsistencies in direction and lack of funding continuity. These problems are imposed primarily by the budget process. The consequences to the Agency are enormous, because many of the nation's best scientists are deterred from becoming involved in scientific efforts of importance to EPA.

RECOMMENDATIONS

1. A comprehensive, long-term scientific strategy should drive annual budget decisions concerning EPA science. EPA should continue and strengthen its current strategic issue planning process. Goals of the planning process should include developing clear objectives and obtaining continuity in funding.
2. EPA should place greater emphasis on cross-media planning and scientific efforts, with the aim of examining all the effects of environmental processes across all media. The Agency's environmental research program should have a large cross-media component that defines the scientific activities required to support the Agency's mission. A scientific understanding of cross-media

effects ultimately will result in a more coherent effort by the Agency to address cross-media problems.

This new emphasis will require enhanced cross-media budgeting. EPA's presentation of its research programs to OMB should reflect a cross-media perspective rather than a perspective that fragments environmental protection into different media.

3. EPA needs to clearly define the mission of each of its laboratories. When laboratories collaborate on a topic, the Agency needs to determine how each laboratory will organize and discharge its responsibilities. EPA must provide the laboratories with the consistent support they require to accomplish their missions.

4. EPA's budget must include long-term funding and support for anticipatory scientific studies. The importance of these studies must be explained to Congress and OMB so that, over the next few years, a portion of the Agency's budget can be directed to critical future problems. EPA then can shift resources to critical issues as they are discovered and mitigate their potential impact.

5. EPA should use its budget to obtain the best possible scientific information and ensure that the nation's scientific expertise is enlisted in the service of EPA's mission. EPA should use the full suite of mechanisms available to achieve these goals, including grants and centers, contracts, and cooperative agreements.

How EPA Uses Science in Decisionmaking

EPA needs to obtain the best up-to-date, objective scientific and technical information for decisionmaking. Equally important is how the Agency applies that information to make credible decisions. The Panel addressed several questions regarding how the Agency uses science in decisionmaking:

- What is the role of science in the development of regulations and policy? How is science represented in the decisionmaking process?
- Is university and industry science adequately identified and used by EPA?
- At what stages in the decisionmaking process should science input from non-EPA sources be available? Should the entire process of using science in decisionmaking be more open?
- How can reputable scientific views, irrespective of the policies being considered, be fairly represented and assessed in all reports?
- How can science enter the decisionmaking process along with political pressures and input from special interest groups and still maintain its integrity?

FINDINGS

1. EPA should be a source of unbiased scientific information. However, EPA has not always ensured that contrasting, reputable scientific views are well-explored and well-documented from the beginning to the end of the regulatory process. In addition, the Agency is perceived to have a conflict of interest because it needs science to support its legal activities. The legal process fosters the presentation of the extremes of scientific opinion. This runs contrary to the preferred process of developing a consensus within the scientific community.

2. EPA science is *perceived* by many people, both inside and outside the Agency, to be adjusted to fit policy. Such "adjustments" could be made consciously or unconsciously by the scientist or the decisionmaker.
3. While the public frequently expects immediate "yes or no" answers to questions about environmental risks, scientific uncertainties often make such answers elusive. EPA has not been successful in communicating to Congress and the public about the nature of uncertainties in science and how these uncertainties are handled when decisions are made.
4. EPA program offices often conduct scoping studies or other preliminary assessments in the early stages of regulatory development. These studies are frequently carried out without the benefit of peer review or quality assurance. They sometimes escalate into regulatory proposals with no further science input, leaving EPA initiatives on shaky scientific ground and affecting the credibility of the Agency.
5. EPA often does not scientifically evaluate the impact of its regulations. The implementation of an environmental policy or regulation provides a unique opportunity to study the environmental response to changes in the type and amount of pollutants. It also represents the best time to begin evaluating the effectiveness of a regulation or policy.

   The importance of evaluating the effectiveness of regulations is demonstrated by the way EPA has regulated primary air pollutants. The Clean Air Act mandates that EPA review the primary air quality standards every five years. While this schedule has not been met, the scientific basis for the regulation of each of these agents has improved as a result of periodic reviews. In the case of particulates, researchers have learned that small particulates that are easily breathed into the lungs are mainly responsible for adverse health effects. This knowledge has allowed EPA to replace the ineffective standard for total suspended particulates and the emphasis on technological approaches aimed at only the heavier particulates.
6. The interpretation and use of science is uneven and haphazard across programs and issues at EPA. Conflicting science policies between EPA programs create confusion and a lack of credibility for EPA decisions.

7. Scientists at all levels throughout EPA believe that the Agency does not use their science effectively.

RECOMMENDATIONS

1. The climate and culture within EPA should emphasize that science should never be adjusted to fit policy, either consciously or unconsciously. For example, the Agency must promote an atmosphere of open discussion in which the scientific staff feels free to express conflicting opinions and judgments without fear of reprisals.

2. To ensure that unbiased information is used to support decisionmaking, EPA must be open to all scientific views and should develop mechanisms for obtaining the consensus of the scientific community. In regulatory development, EPA should implement a widely advertised, open process whereby the scientific views of all parties are heard prior to regulatory decisions. The results of these discussions should be conveyed to EPA decisionmakers.

   A successful model for this open process is the Clean Air Scientific Advisory Committee of EPA's Science Advisory Board. This committee has consistently provided an open forum for review and discussion of the science underlying EPA's national ambient air quality standards. Consequently, this committee i well-respected by scientific experts in the field.

3. EPA should implement a decisionmaking process whereby science advice is provided as early as possible, beginning in the problem identification and scoping phase and continuing throughout the development of policy, regulations, and nonregulatory strategies.

   To support this effort, EPA should examine how the Agency used science in the past in developing one or more major regulations. The goal of such a study would be to determine the type of scientific and technical information needed for decisionmaking and the points at which scientific input is most effective. This analysis may help the Agency identify places in the regulatory process where science input is needed but was not included in previous regulatory efforts. The study should take into account the varying needs and decisionmaking processes of the different EPA program offices.

Appendix A

Strategic Direction for the U.S. Environmental Protection Agency

"EPA... Preserving Our Future Today"

MISSION

The people who work at the Environmental Protection Agency are dedicated to improving and preserving the quality of the environment, both national and global. We work to protect human health and the productivity of natural resources on which all human activity depends. Highly skilled and culturally diverse, we are committed to using quality management processes that encourage teamwork and promote innovative and effective solutions to environmental problems. In particular, we are committed to ensuring that:

- Federal environmental laws are implemented and enforced effectively.
- U.S. policy, both foreign and domestic, fosters the integration of economic development and environmental protection so that economic growth can be sustained over the long term.
- Public and private decisions affecting energy, transportation, agriculture, industry, international trade, and natural resources fully integrate considerations of environmental quality.
- National efforts to reduce environmental risk are based on the best available scientific information communicated clearly to the public.
- Everyone in our society recognizes the value of preventing pollution before it is created.
- People have the information and incentives they need to make environmentally responsible choices in their daily lives.

- Schools and community institutions promote environmental stewardship as a national ethic.

GOALS AND OBJECTIVES

EPA's unique role in protecting the environment includes:

- Providing leadership in the nation's environmental science, research, and assessment efforts. We are committed to:
    - Gathering and analyzing the data needed to evaluate environmental risks and trends, measure environmental results, and inform the choices of institutions and individuals throughout society;
    - Promoting and supporting innovative technological solutions to environmental problems;
    - Encouraging and conducting research that improves our understanding of health and ecological risks;
    - Providing objective, reliable, and understandable information that helps build trust in EPA's judgment and actions; and
    - Sharing research findings and innovative technologies with other nations.
- Making sound regulatory and program decisions. We are committed to:
    - Implementing current environmental laws effectively, and helping to improve those laws as they are reauthorized in the future;
    - Evaluating health and ecological risks, and targeting our environmental protection resources at

the problems and the geographical areas posing the greatest risks;

  - Promoting public and private actions that prevent pollution at the source before it becomes a problem;
  - Protecting the environment as a whole by developing programs that control the movement of pollutants across environmental media;
  - Devising innovative, integrated solutions to environmental problems, especially when they are concentrated in specific geographic areas or industries;
  - Improving the economic analyses that promote efficiency and cost-effectiveness in our decisions;
  - Applying market mechanisms and economic incentives when they are appropriate and effective; and
  - Working with other government agencies to ensure they consider the environmental implications of their actions.

- Effectively carrying out our programs and policies. We are committed to:
  - Meeting federal statutory obligations while retaining sufficient flexibility to address priority risks in different parts of the country;
  - Maintaining a vigorous and credible enforcement program, with emphasis on multi-media and criminal violations;
  - Promoting cross-media and interstate initiatives, such as multi-media permitting and enforcement;

GOALS AND OBJECTIVES (CONTINUED)

  - Enabling state and local governments, as partners, to implement and enforce environmental programs;
  - Conveying clear, accurate, and timely information to the public, and incorporating information from the public in EPA activities; and
  - Involving other government agencies, public interest groups, the regulated community, and the general public in achieving national and global environmental goals.

- Improving the global environment. We are committed to:
  - Maintaining and strengthening U.S. leadership to protect and improve the global commons;
  - Working with other government agencies and nations, the private sector, and public interest groups to identify and solve transboundary pollution problems;
  - Ensuring that environmental concerns are integrated into U.S. foreign policy, including trade, economic development, and other policies; and
  - Providing technical assistance, new technology, and scientific expertise to other nations.

April 1991

Appendix B

Charge to the Expert Panel and Affiliations of Panel Members

U.S. Environmental Protection Agency
Charge to the Expert Panel on the Role of Science at EPA
May 22, 1991

PURPOSE OF THE REVIEW

The Agency's new statement of strategic direction calls for sound science serving as the foundation for the Agency's policy and program decisions. The Administrator of EPA is establishing an Expert Panel to advise him on how best to achieve the objectives set forth below. The Administrator has asked the Panel to work with the Assistant Administrator for the Office of Research and Development (ORD) and other EPA offices to accomplish this task. The Administrator has also asked the program Assistant Administrators to cooperate fully in this endeavor.

OBJECTIVES

- To identify how best to provide the Administrator with up-to-date, objective scientific information in keeping with the new strategic direction.
- To assure that the knowledge base necessary to achieve the new vision is available through proper planning, adequate resources, and necessary leadership.
- To ensure that the research and scientific information needs of the programs and regions are adequately met and their views incorporated in the scientific advice provided to the Administrator.

- To enhance the stature of science within the Agency and among the many constituencies with which EPA deals.

CHARGE TO THE EXPERT PANEL

By the end of September 1991, provide to the Administrator a set of recommendations for achieving EPA science objectives. Among the specific issues the Panel should consider:

- How can the role of ORD and its significant resources be enhanced to help fulfill these objectives?
- How should other organizational components of EPA that carry out scientific work help assure overall quality of science across the Agency?
- How can organizational elements that collect, store, manage, and interpret Agency data help ensure the integrity and interpretive quality of environmental data? Are changes needed in cross-media data systems or programs—e.g., the proposed Center for Environmental Statistics?
- How should EPA decisionmaking processes be modified to ensure that regulatory policies are consistent with the current state of science? How can EPA ensure that the new emphasis on nonregulatory approaches to environmental problems will be based on a sound scientific foundation?
- How should current and planned science resources be allocated to improve the scientific basis for EPA decisionmaking?
- How can EPA ensure that research is focused on the highest priority environmental problems and

anticipates the future information needs of EPA programs? How can advances in scientific understanding be incorporated into the Agency's research programs and priorities?

- How can the stature and reputation of science in the Agency be improved?
- How can EPA leverage the work of other federal agencies and scientific institutions? How can EPA work most effectively in the international scientific community?

COMPOSITION OF THE PANEL

Raymond C. Loehr (Chair of the Panel)
H.M. Alharthy Centennial Chair in Civil Engineering
Department of Civil Engineering
University of Texas

Bernard Goldstein, M.D.
Professor and Chairman, Department of Environmental and Community Medicine
Director, Environmental and Occupational Health Sciences Institute
University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School

Paul G. Risser
Provost and Vice President for Academic Affairs
University of New Mexico

Anil Nerode
Professor of Mathematics and Computer Science
Goldwin Smith Chair and Director, Mathematical Sciences Institute
Cornell University

Appendix C

Persons Interviewed By the Expert Panel

Name	Affiliation
Alvin L. Alm	Director and Senior Vice President, Science Applications International Corporation
D. Allan Bromley	President's Science Advisor
J. Clarence Davies	Executive Director, National Commission of the Environment, Conservation Foundation
Paul M. Deisler, Jr.	Vice President for Health, Safety, and Environment (retired), Shell Oil Company
Allan M. Ford	Member, Committee on Environmental Improvement, American Chemical Society
David M. Gibbons	Deputy Associate Director for Natural Resources, Office of Management and Budget
George M. Hidy	Vice President for Environment, Electric Power Research Institute
Gene E. Likens	Director, Institute of Ecosystem Studies
Margaret G. Mellon	Director, Biotechnology Project, National Wildlife Federation
Dallas L. Peck	Director, U.S. Geological Survey
Jimmie R. Powell	Professional Staff Member, Senate Environment and Public Works Committee
Walter R. Quanstrom	Vice President, Environmental Affairs and Safety, Amoc Corporation

	Michael L. Rodemeyer	Chief Counsel, House Science, Space and Technology Committee
	David P. Rall	Former Director, National Institute for Environmental Health Sciences
	Terry F. Yosie	Vice President, Health and the Environment, American Petroleum Institute
	Frank E. Young	Deputy Assistant Secretary for Health/Science and Environment, U.S. Department of Health and Human Services
EPA	Donald G. Barnes	Director, Science Advisory Board
	Erich W. Bretthauer	Assistant Administrator, Office of Research and Development
	Don R. Clay	Assistant Administrator, Office of Solid Waste and Emergency Response
	Thomas P. Dunne	Associate Administrator, Office of Regional Operations and State/Local Relations
	Lester D. Grant	Director, Environmental Criteria and Assessment Office - Research Triangle Park
	Edward J. Hanley	Deputy Assistant Administrator, Office of Administration and Resources Management
	Victor J. Kimm	Deputy Assistant Administrator, Office of Pesticides and Toxic Substances
	Richard D. Morgenstern	Acting Assistant Administrator, Office of Policy, Planning and Evaluation
	Thomas A. Murphy	Director, Environmental Research Laboratory - Corvallis

EPA (CONTINUED)	Dorothy E. Patton	Director, Risk Assessment Forum
	Peter W. Preuss	Director, Office of Technology Transfer and Regulatory Support, ORD
	Frank T. Princiotta	Director, Air and Energy Engineering Research Laboratory - Research Triangle Park
	Courtney Riordan	Director, Office of Environmental Processes and Effects Research, ORD
	William G. Rosenberg	Assistant Administrator, Office of Air and Radiation
	Michael H. Shapiro	Deputy Assistant Administrator, Office of Air and Radiation

Appendix D

Record of Public Meeting Attendance and Written Comments

MEMBERS OF THE PUBLIC ATTENDING EXPERT PANEL PUBLIC MEETINGS

July 24, 1991

Lisa L. Barrera	Barrera Associates, Inc.
Ted N. Barrera	Barrera Associates, Inc.
Mark Benjamin	Environmental Policy Center
Robert Carton	National Federation of Federal Employees
Patrick Davies	Covinston & Burling
W. Gary Flamm	Flamm Associates
Paul Garvin	Amoco Corporation
Andrew W. Kaupert	General Motors
Nora L. Lee	Health and Environmental Science Group
Soonie McDavid	Chemical Specialities Manufacturers
Resha M. Putzrath	Organization Resources Counselors, Inc.
Anne Santalla	American Industrial Health Council
Susan Turner	American Chemical Society

July 25, 1991

Ted N. Barrera	Barrera Associates, Inc.
Mark Benjamin	Environmental Policy Center
James Jones	*Inside EPA*
Andrew W. Kaupert	General Motors
Nora L. Lee	Health and Environmental Science Group
Anne Santalla	American Industrial Health Council
Robin Sudja	Distilled Spirits Council of U.S.
James D. Wilson	Monsanto Co., St. Louis, MO

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MEMBERS OF THE PUBLIC ATTENDING EXPERT PANEL PUBLIC MEETINGS (CONTINUED)

August 19, 1991

Ted N. Barrera	Barrera Associates, Inc.
Keith Belton	American Chemical Society
Peter J. Camp	4100 Massachusetts Ave., NW, #314, Washington, DC
Robert Carton	National Federation of Federal Employees
Sanford Cohen	SC&A
Joanne Goodell	OSHA Policy Directorate
Rich Jarman	NFPA
James Jones	*Inside EPA*
Andrew W. Kaupert	General Motors
Allison Keeler	Environmental Policy Center
Nora L. Lee	Health and Environmental Science Group
Barry Page	HIMA
Steve Riser	Business Publishers Inc. (*Toxic Materials News*)
Anne Santalla	American Industrial Health Council
Bruce K. Trauben	700 13th St., NW, Suite 700, Washington, DC 20005
Susan Turner	American Chemical Society
Dennis Wamsted	*Environment Week*
Pat Ware	*BNA - Environment Reporter*

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